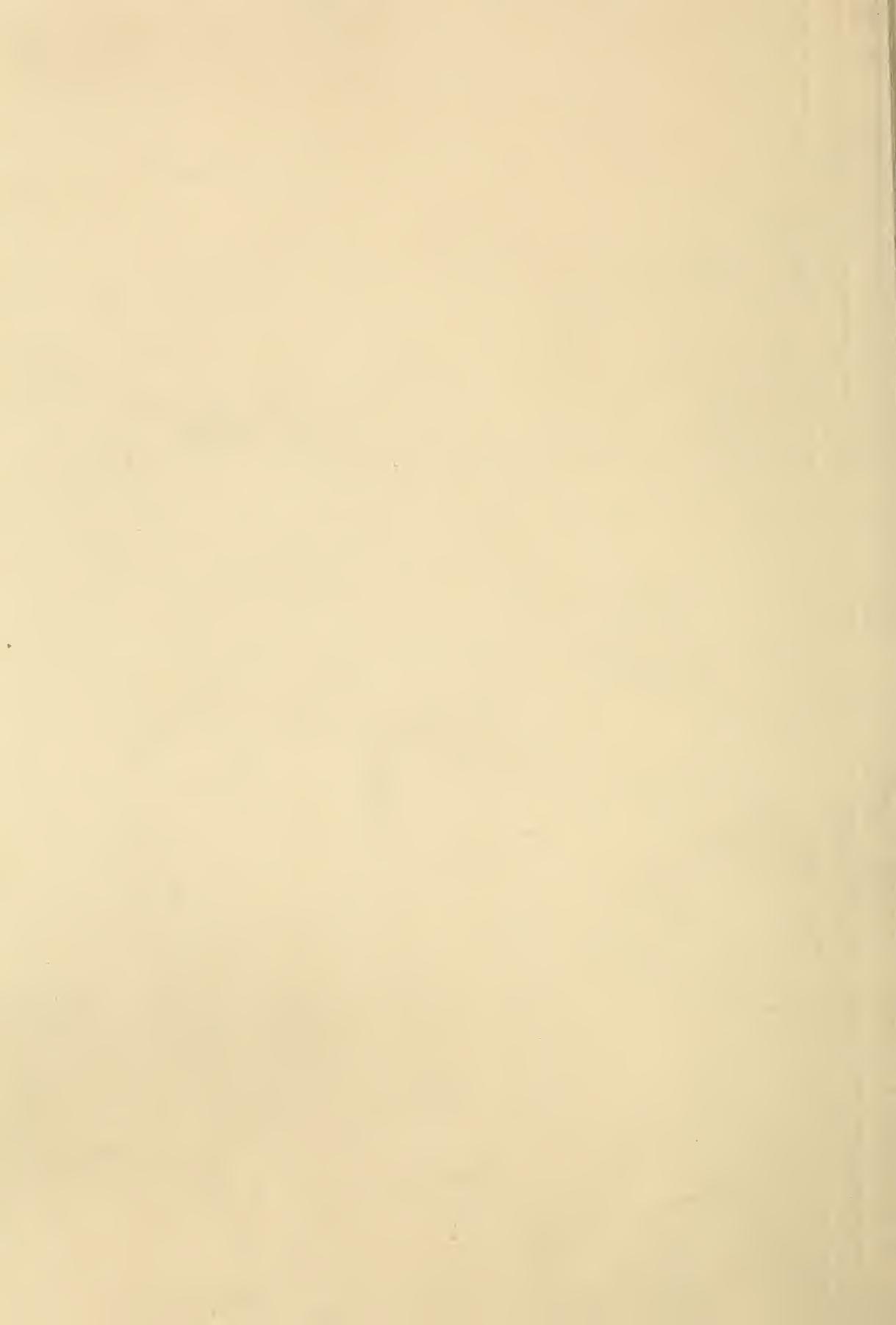
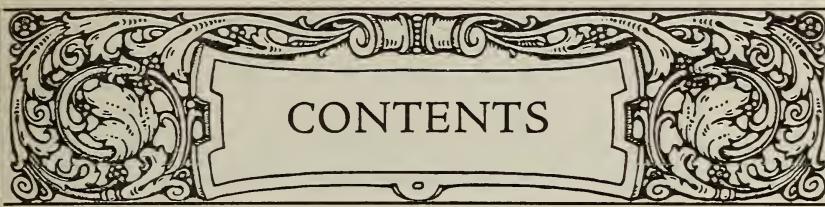


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SUBSCRIPTION RATES.—One year, \$1.00; two years, \$1.50; three years, \$2.00; five years, \$3.00. Canadian subscription, 30 cents additional per year, and foreign subscription, 60 cents additional. **DISCONTINUANCES.**—On and after March 1, 1917, all subscriptions, not paid in advance, or specifically ordered by the subscriber to be continued, will be stopped on expiration. No subscriber will be run into debt by us for this journal.

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(Entered as second-class mail matter at the Postoffice at Medina, Ohio.)

THE A. I. ROOT COMPANY, Publishers, Medina, Ohio

Editorial Staff

E. R. ROOT Editor	A. I. ROOT Editor Home Dept.	H. H. ROOT Managing Editor	J. T. CALVERT Business Manager
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"When we receive your Honey
Return mail brings your Money."

The Fred W. Muth Co.

Get Service Like this Man

Lake City, Mich., May 5, 1917.

Friend Muth:—Your letter with check for \$146.20 for wax has been received. Thanks. I do believe you beat them all when it comes to quick returns for goods shipped you. I may have some more wax to sell after we get our cappings melted.

Yours truly,
(Signed) Elmer Hutchinson.

We Want Immediately Extracted Honey

We buy all grades of Extracted Honey. Large or small lots. Send sample and price. If price is right we will buy. Parties who have Fancy and No. 1 Comb Honey, write us at once. We will buy from 40 to 50 carloads this season.

Beeswax

Send us your beeswax. We pay highest market prices, and send you our check the same day shipment is received.

Old Comb

Make some spare money from the wax rendered from your old comb. We will render it, charging only 5 cents per pound for rendering, and pay you best market prices for the wax rendered.

Shipping-cases for Comb Honey

We are prepared to ship you the same day order is received any number of shipping-cases. Several carloads are here now, ready for buyers. Send your order in now before our supply is exhausted. We sell Lewis Beeware.

Remember

We remit the same day your shipment arrives. Read the letter above and be convinced that this is the house to send your shipments to. Try us.

The Fred W. Muth Co.

"The House the Bees Built"

204 Walnut St., Cincinnati, Ohio

In Stock for Immediate Shipment

800 cases two 5-gallon cans
12000 5-lb. and 10-lb. pails
Shipping-cases for comb honey

Write us

M. H. Hunt & Son, Lansing, Michigan

NOTICE!

Honey . Wanted . Honey

Do not forget, when your crop of honey is ready for sale, to send us a sample. State your price, also how it is put up. We are in the market for unlimited quantities, and will pay cash on arrival. Let us hear from you before selling your crop.

C. H. W. Weber & Co., Cincinnati, O.

2146 Central Avenue

HONEY MARKETS

Conditions in the honey market remain much the same as during the past two months, characterized by uncertainty and influenced by the abnormal war conditions that have unsettled all food prices. Prices for honey at present are abnormally high, and, we believe, will remain high, for the demand seems brisk and very much of the 1917 crop is already sold. The fact that the entire American sugar industry will be placed under government control Oct. 1, and that sugar prices have already materially declined because of this fact, may have a tendency to lower honey prices somewhat. Here is what the United States Monthly Crop Report for Sept. 1 had to say about honey:

The yield of honey per colony for the United States, which on July 1 was but 13½ pounds, about half the production on that date in the previous two years, had on Sept. 1 increased to an average of 35.9 pounds, almost equal to the 1915 yield tho still decidedly below the yield on that date in 1916.

The wholesale prices of honey on September 1 reported by correspondents average for the United States 13.3 cents per pound for white, 11.6 for amber, and 10.5 for dark extracted; 16.5 for white and 14.0 for amber and dark comb; 15.1 for white and 13.3 for amber and dark chunk or bulk comb honey, the chunk honey being produced and sold for local consumption principally in the South. These figures include some prices quoted for wholesale consignments of less than one ton.

Gleanings within the last month has inquired from reliable and disinterested sources, from widely different points in the country, as to (1) actual prices received for honey (2) and for what prices honey-producers who have not already sold are holding their crop.

From Idaho comes a report furnished by one of the large honey-producers' associations that the lowest price paid for extracted in five-gallon cans, within the association's knowledge, is 12½c, one car going to Seattle at that price. This association has sold several cars at 12½ and 13c; has put a price of 14c on the balance left and has been offered 13½c for this balance. This association's entire comb-honey crop has been sold at \$3.25 for fancy, \$3.00 for No. 1, and \$2.75 for No. 2—except one car which sold at 25c per case above these prices. This association reports some Idaho producers as selling at \$3.00, \$2.80, and \$2.60 (fancy, No. 1 and No. 2) to coast points and paying 10c per case brokerage. All comb honey sold. Another Idaho producers' association reports the sale of extracted (in 60-lb. cans) at 12c and selling locally at 14c. This association has as yet sold no comb honey, and is holding for \$3.75 for fancy, \$3.50 for No. 1, and \$3.25 for No. 2.

A Colorado honey-producers' association reports selling to jobbers at the following prices: white extracted, per 60-lb. can, \$8.64; comb No. 1 white, per case, \$4.05; No. 2, per case, \$3.60.

The Wisconsin State Beekeepers' Association reports extracted sold at 14c; comb at 16 to 18c.

From officers of the Michigan State Beekeepers' association comes this report: A very few beekeepers have sold their extracted as low as 9c; a few for 10c, but most of the large producers have received from 12 to 15c; the small comb-honey crop has been turned over to the stores at an average price of about 19c, but some who have shipped have received as low as 15c and some as high as 22c. Michigan producers, who have not sold, are reported as holding their extracted for 15c. Most car offers are 12c to 12½ f. o. b. shipping-point.

From New York State's honey-producers' association comes this report: No. 1 fancy comb, \$4.25 to \$5.00 per case; most of No. 1 has sold for \$4.50 per case; white extracted, all not early contracted at 10c net, has sold from 13 to 16c per lb., and the bulk of it moving at 14½ and 15c at producers' points; comb and extracted almost all sold, and buyers snapping up all extracted they can at 15c. The N. Y. State Beekeepers' Association reports white extracted as having been sold at 12½c, and dark honey held at 11c; fancy comb honey being held for \$4.50 per case; No. 1 buckwheat comb and No. 2 white held at \$3.50 per case.

GENERAL MARKETS

PORTRLAND.—Comb honey, fancy, \$4.00; No. 1, \$3.75; No. 2, \$3.50. Extracted honey, white brings 16c; light amber, in cans, 15; amber, in cans, none offered. Beeswax, none offered.

Portland, Ore., Sept. 15. Pacific Honey Co.

KANSAS CITY.—The movement of honey, both extracted and comb, is slow, as the trade complains of the high price. We quote comb honey, fancy, \$4.50; No. 1, \$4.35; No. 2, \$4.15. White extracted honey, per lb., brings 15 cts.; light amber, in cans, 14. Clean, average yellow beeswax brings 40 cts. C. C. Clemons Produce Co.

Kansas City, Sept. 17.

NEW YORK.—There is a good supply of honey in the market; but the foreign buyers are rather scarce at present. There is no decline in prices, as those holding honey expect orders later. New York State producers are holding for 13 to 15 for white; 12 for buckwheat.

New York City, Sept. 20.

BUFFALO.—Very little honey is offering. Some of the largest shippers advise their supply is limited, and less than last year. We quote comb honey, extra fancy, per lb., 22. Extracted honey, white, per lb., 15. Gleason & Lansing.

Buffalo, N. Y., Sept. 18.

ARIZONA.—Demand exceeds supply. Crop well shipped out in car lots. Very few cars left. Prices strong, indicating an advance. We quote extracted honey, white, per case of 120 lbs., \$13.00, in car lots; light amber, in cans, \$12.60, in car lots; amber, in cans, \$12.40, in car lots. Clean, average yellow beeswax brings 30c. Wm. Lossing.

Phoenix, Ariz., Sept. 16.

PHILADELPHIA.—We have considerable inquiry as to probable price on new comb honey, but have had very little to offer. Buyers are reluctant to obligate themselves as to future purchases on the present outlook of prices. On comb honey we have made some jobbing sales at 20 to 22 cts. Can count for extra fancy. Beeswax brings 38 to 40. Chas. Munder.

Philadelphia, Sept. 21.

CLEVELAND.—Old crop of comb honey is all used up. New honey is arriving in small lots. Demand is fair. Comb honey, fancy, brings per case, \$5.00; No. 1, \$4.75. C. Chandler's Sons.

Cleveland, O., Sept. 19.

SAN FRANCISCO.—Comb honey is coming in; demand only fair; only clean bright stock is active, and selling limited to small quantities. While extracted honey is looked upon as a staple, comb is regarded by many as a luxury. White extracted of quality that will not granulate quickly is moving, and some light ambers sell well; dark honey, especially rank-flavored quality, is moving slowly. Some Hawaiian Island extracted is bringing 8 to 9 cts. per lb. We quote prices to jobbers on comb honey, fancy, per case, \$3.25 to \$3.50; No. 1, \$3.00; No. 2, \$2.50 to \$2.75. Extracted honey, white, per lb., 12½ to 14; light amber, in cans, 10½ to 12½; amber, in cans, 9 to 10c. Beeswax brings 30 to 31 cts.; darker grades, 25 to 27.

Leutzinger & Lane.

San Francisco, Cal., Sept. 12.

CHICAGO.—During the past 30 days, there has been an active market with light receipts. Fancy comb has reached 22 cts. per lb. No. 1 is selling freely at 20 to 21 with few ambers offered, but bringing from 1 to 3 cts. per lb. less. Extracted clover and basswood blend of good body and flavor brings 15 cts.; amber grades range from 1 to 5 cts. per lb. less according to color, flavor, and body. This applies to honey in tin. In barrels, 1 ct. per lb. less is the prevailing difference. Beeswax is not active, but prices are ranging at from 35 to 38 cts. per lb., according to color and cleanliness.

Chicago, Sept. 18.

R. A. Burnett & Co.

ST. LOUIS.—Our market is entirely bare of comb honey, and no new stock has arrived, so it is impossible to make any firm quotations. Southern extracted honey has been arriving quite freely, and the demand for it has been good. Extracted honey, light amber, in cans, brings 15 to 16 cts.; in barrels, 13 to 14; amber, dark, in cans, 12 to 13; in barrels, 11 to 12. Beeswax, 37c.

R. Hartmann Produce Co.

St. Louis, Mo., Sept. 19.

DENVER.—We are at present selling new honey to retailers at the following prices: No. 1 white comb honey, per case of 24 sections, \$4.50; No. 2, \$4.00. Extracted white, according to quantity, 16 to 18. We are buying beeswax, and at present are paying 34 cts. cash and 36 in trade for clean yellow wax delivered here.

The Colorado Honey Producers' Ass'n.
Denver, Colo., Sept. 15, 1917.

SYRACUSE.—White honey is moving somewhat with the retailer. I don't think that comb honey is going as fast as it did a year ago at this time. I quote comb honey, extra fancy, per case, \$4.80; fancy, \$4.32; No. 1, \$3.60; No. 2, \$3.00. Extracted honey, white, per lb., 15; light amber, in cans, 14; amber, in cans, 13. E. B. Ross.

Syracuse, N. Y., Sept. 18.

PITTSBURG.—Demand is poor, but will be better as the weather gets cooler. As yet there has not been much on the market. By the end of the month we look for a good demand. We quote comb honey, extra fancy, per case, \$4.00; fancy, \$3.50.

Pittsburg, Pa., Sept. 17.

W. E. Osborn Co.

TORONTO.—We are quoting new clover honey to the retail trade as follows: 16-oz. glass, \$3.25 per doz.; 12-oz. glass, \$2.40; 5s tins, 95 cts.: 10s tins, \$1.85.

Eby-Blain Ltd.

Toronto, Can., Sept. 18.

MONTREAL.—White clover and buckwheat honey is a fair average crop in most sections; somewhat later in delivery this season. Good demand at prices much higher than in 1916. We are paying for comb honey, extra fancy, 16 cts.; fancy, 15; No. 1, 14; No. 2, 12. Extracted honey, white, 14 to 14½; light amber, in cans, 13½; in barrels, 13; amber, in cans, 13½; in barrels, 13.

Gunn, Langlois & Co., Ltd.

Montreal, Can., Sept. 18.

HAMILTON.—Honey is scarce in this section. We have sold all we received so far, and have only a few more shipments to come. Shippers say they have been too busy to ship. We quote comb honey, fancy, \$2.75 per doz. Extracted honey, white, 17 cts. in 60-lb. tins.

F. W. Fearman Co.

Hamilton, Ont. Sept. 18.

MEDINA.—We are paying at this date for white, well-ripened, extracted honey in 60-lb. cans, 12 cts. per pound, f. o. b. shipping-point, in carload lots. For comb honey we are paying about \$3.25 per case for fancy and No. 1, when shipped in carload lots. Offerings of extracted are liberal, but comb is not offered freely. As to the available supply of comb, there is considerable uncertainty. One of the best authorities on comb honey we know believes that there is a considerable stock being held for higher prices; and, in the opinion of said authority, producers will make a mistake in holding for higher prices on comb. Our opinion is, however, that the market will be governed largely by general business conditions as they may develop within the next 60 or 90 days.

The A. I. Root Co.

Medina, O., Sept. 25.

U. S. Government Market Report.

Philadelphia.—Extracted honey: 1 car Colorado, 1 car Arizona, 12 cases unknown origin arrived. Comb honey: no fresh arrivals. Demand slow, market steady; very few sales. Southern extracted in barrels: Amber, 11 to 11½ cts. per pound; Colorado and Arizona: alfalfa and mesquite, no sales reported. Comb honey: few sales old stock; No. 1, heavy white, 22 cts. per section. Beeswax: demand light, market easier; pure crude, 38 cts. per pound.

Denver.—Approximately 2300 cases white comb, and 21,900 pounds light-amber extracted arrived; 24 section cases white comb honey, demand good, market steady; quality and condition generally good; No. 1, \$4.05 per case; No. 2, \$3.60; white to light amber extracted, movement slow, quality and condition generally good; 14½ to 15 cts. per pound. Beeswax: receipts very light; price to producer 34 cts. per pound.

Cincinnati.—One car Wisconsin comb; 3 barrels and 25 boxes Iowa, 9 barrels Alabama, 11 barrels and 97 crates Kentucky, arrived. Correction: 1790 barrels Ohio last report should have read 1790 pounds. Market strong, demand good, movement moderate. Extracted honey: light amber, 15 cts. per pound; dark amber, 13; orange and white sage, 16½. Comb honey: heavy white, fancy, \$4.50; No. 1, \$4.25 per 24-section case. No. 1 white heavy comb honey in last report should have read \$4.00 to \$4.50 instead of \$4.40 to \$4.50.

New York.—Two cars California, 54 barrels Cuba, and 251 crates Texas arrived. Market fair, demand moderate. Extracted honey: West Indian, \$1.25 to \$1.40, mostly \$1.35 per gallon; California: \$1.30 to \$1.45 per gallon. Beeswax: 45 bags Cuba and 31 bags Texas arrived; market firm, domestic demand brisk; yellow, 39 to 40 cts. per pound; dark, 38 to 39.

Chicago.—Two cars California arrived; local receipts light; demand active, market very strong. Wisconsin, Minnesota, and Michigan: Comb honey, No. 1, 20 to 21 cts. per pound; fancy, 22. Extracted honey in tins, 14 to 14½ cts. per pound. California: extracted honey, light amber, 13½ to 14.

Minneapolis.—One car Colorado comb, light receipts Minnesota and Iowa; 5 cars Iowa in last report should have read 5 cans. Demand slow, market steady; present supply of all fruits is curtailing demand. Colorado: 24-section cases white comb honey, \$4.15 per case. Minnesota and Iowa: 24-section cases comb honey, mostly \$4.00 per case. Few sales extracted honey in 10-pound pails, white. Minnesota: mostly 13½ cts.

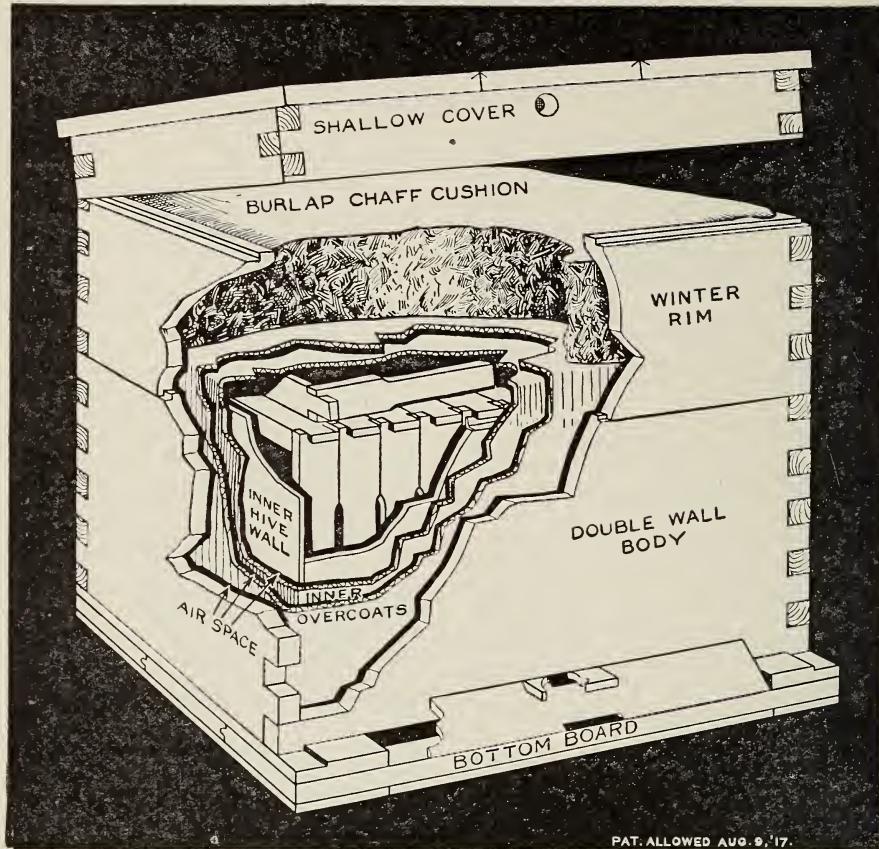
St. Paul.—Light receipts Minnesota and Wisconsin. Market very firm, demand moderate; 24-section cases comb honey. Minnesota: white, mostly 18 to 19 cts. per pound. Extracted honey, very few sales, mostly 14 cts.

Kansas City.—No carlot arrivals; approximately 100 cases by express, and approximately 3000 pounds extracted honey from Colorado; 1 car Colorado due, but late. Demand and movement moderate, market steady; all sales in small lots. Missouri: receipts light. Comb honey: 24-section flat cases, No. 1, mostly \$4.75; extracted honey: Colorado, light color, demand and movement slow; mostly 15 cts. per pound. Beeswax: receipts light; demand and movement slow; mostly 40 cts. per pound.

St. Louis.—Supplies light. California bright amber in cans, 12½ to 13 cts.; poorer amber, in barrels, 11½. Beeswax supplies light; 36 to 37 cts. per pound.

Washington, D. C., Sept. 15.

WOODMAN'S New Protection Hive



The Hive with an inner overcoat. . Wintered 100 per cent perfect in 1916-17. . . Winter Problem Solved.

The same dimensions as formerly. The construction now is such that a bottomless corrugated paper box can be telescoped down over the brood nest, in between the outer and inner hive walls, as a matter of insulation or protection when preparing them for winter. The work of preparing the bees for winter with this system is a joy. In Spring the boxes are removed and stored away in the k. d. flat. A new circular with large illustrations will describe all. Send today for one.

TIN HONEY-PACKAGES

YOU WILL MAKE A MISTAKE if you do ask for our LOW PRICES on Friction Top Pails and Cans. We are SAVING MONEY for carload buyers and others of smaller lots, why not you? Our three-year contract is enabling us to make prices a considerable under general market quotations. Let us hear from you, specifying your wants.

FRICTION-TOP TINS

	2 lb. cans	2 1/2 lb. cans	3 lb. cans	5 lb. pails	10 lb. pails
Cases holding	24	24	...	12	6
Crates holding	100	50	50
Crates holding	603	450	...	203	113

A. G. Woodman Co., Grand Rapids, Michigan

SHIPPING-CASES PROMPT SHIPMENT

By the time this issue of Gleanings reaches you you will know your requirements for shipping-cases. We have quite a supply of these on hand now and can ship promptly.

Better order at once as freights are slow, and as they are heavy must go by freight. Express would be too expensive. Next month figure out your wants for next year; then send an order for goods on which we will allow an early-order discount. In ordering shipping-cases please remember they have advanced in price 4c each.

F. A. Salisbury, Syracuse, New York
1631 West Genesee St.

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Send to Your Nearest Lewis Distributor for
Lewis Hives and
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Colorado.....	Rifle, C. B. Coffin.
Idaho.....	Caldwell, Idaho-Oregon Honey Prod. Ass'n.
Illinois.....	Hamilton, Dadant & Sons.
Iowa.....	Davenport, Louis Hanssen's Sons.
Iowa.....	Sioux City, Western Honey Producers' Ass'n.
Iowa.....	Emmetsburg, H. J. Pfiffner.
Michigan.....	Grand Rapids, A. G. Woodman Co.
Montana.....	Fromberg, B. F. Smith, Jr.
New York.....	Newark, Deroy Taylor Co.
Ohio.....	Cincinnati, Fred W. Muth Co.
Oregon.....	Portland, Chas. H. Lilly Co.
Porto Rico.....	Ponce, Prats & Vicens.
Tennessee.....	Memphis, Otto Schwill & Co.
Texas.....	San Antonio, Texas Honey Producers.
Washington.....	Seattle, Chas. H. Lilly Co.
Wyoming.....	Wheatland, Fred M. Harter.

— — —
G. B. Lewis Company, Watertown, Wis.
Manufacturers

GLEANINGS IN BEE CULTURE

OCTOBER, 1917

EDITORIAL

GOVERNMENT CONTROL of the entire sugar situation now points certainly to the development of

WAR MEASURES will vitally affect **EFFECT** price, quality, and **ON HONEY** quantity, from the

cane and beet sugar fields to the very door of private homes where the refined product is delivered by the grocer. This situation must and will involve the question of honey markets and honey's uses.

The public press of Sept. 11 announced that the entire American sugar industry will be placed under government control Oct. 1, by the establishing of a license system to include manufacture, refining, importing, and distribution. Food Administration officials will have complete charge of this work. If the Government can bring down the price of wheat and potatoes it can of sugar also.

As indicating what the price effect of the Government's control of sugar is to be, *The Louisiana Planter and Sugar Manufacturer* of Sept. 15 said: "The sugar markets of the whole country have been paralyzed by the announcement that the beet-sugar men were willing to accept 7½¢ per pound for the coming crop of white granulated beet sugar and had agreed to that with Mr. Hoover, the consenting parties reaching some 80 per cent of the whole prospective beet-sugar crop."

With the certainty that the sugar business is to be taken in hand by the United States Government, it is altogether probable that the Government will follow the lead of France and England in sugar regulation just as it is doing in almost all other departments of war preparation and regulation. This will mean, first, that the Government will fix the price of sugar. Press notices indicate that the wholesale price will range around 7 cents. Hoover and his assistants will probably allow a reasonable profit, but will stop all exorbitant war profits and speculation.

It will mean, too, that Uncle Sam will limit the amount of sugar available to each consumer. The consumer will have to testify for what purpose the sugar is to be used, and the quantity. It will mean, possibly, that sugar will be barred from going into candy, cakes, ice cream, and soda water. There is a probability that Hoover and his assistants will so regulate the output of sugar that it can be used only to make up a balanced ration which the human system actually requires. The housewife will be admonished, as she already has been, to cut out all frostings from her cakes; to dry fruit, corn, and other food products instead of canning them. Government regulation also will mean that the candy-makers may be compelled to dispense with cane and beet sugar entirely in all candies. If this is the case, honey, the only substitute, will have to be used.

The amount of candy consumed in the United States annually is enormous. If the Government stops the large candy-makers from using cane and beet sugar, the only substitutes will be glucose and honey. Glucose has but very little sweetening power; but it does excellent service, we are told, in making "chewy" candy, such as gum-drops, that have comparatively little sweetening.

Now, then, if the candy-maker desires a candy that has sweetness he will have to use honey, because saccharin, the only other sweetener, a product of coal tar, is a rank poison, and has been barred by the Bureau of Chemistry, Washington, from use in all foods and from all interstate commerce. The pure-food laws of almost all states prohibit the use of saccharin. If honey's strongest competitor, cane and beet sugar, should be commandeered in the United States in the manner stated (and that is precisely what the European Governments have done), the demand for honey will be enormous, because it will have to take the place of cane sugar in all confectionery, frosting, and, very likely, in soda water.

It will have to be used largely in canning. When honey once gets this enlarged foothold, and the public once learns that it can use honey in place of sugar, its future as a food product and as a confection will be established forever.

War, and especially the present one, is an awful thing; but in the wake of war come some good things; and in this particular case it is honey that reaps a benefit, for it is apparent that honey will form a larger part of our dietary than it has ever done before. Even when the great war is over, and a series of years have elapsed and things have resumed their normal condition, honey will not lose its food grip on the public that it secured during this war.

THE QUESTION of packing bees outdoors or putting them inside in a winter repository will depend on

CELLAR climatic conditions.
VERSUS In a general way
OUTDOOR it may be said that unless the winters
WINTERING are severely and continuously cold, beginning about the first of December and ending in March or April, with a temperature playing around zero or lower, the outdoor method of packing should be employed. It may be said, also, that the average person will winter better outdoors than in.

Indoor wintering is not practical in a climate where the winters are mild, with cold and warm days playing between 10 below zero and 50 to 65 above at times when bees can fly. Besides the question of the outdoor weather is the one of ventilation and temperature in the cellar itself. The mercury should not go higher than 55 degrees nor lower than 40. In climates where the outdoor weather is variable it is impossible to control the temperature in the bee-cellar within the ranges mentioned. A variable temperature in the cellar—one going down below 36 or 37 and above 60—will prove disastrous before spring. Cellared bees, when they become uneasy, either because the temperature is too low or too high, or because the ventilation is insufficient, or because the combination of temperature and ventilation is poor, will be almost sure to have dysentery toward spring. The bees that contract dysentery in a bee-cellar are as good as lost; and even if they live thru the period of confinement they will not be worth much for honey production during the season.

As a general rule, south of the Great Lakes outside packing on summer stands

is much more preferable, and even to a considerable extent north of the lakes outdoor wintering can be employed to advantage. In localities like northwestern Iowa, and the Dakotas, where the mercury goes down to zero and stays there thruout the winter, falling sometimes as low as 60 degrees below, with snow on the ground that never melts during the entire winter, the indoor method may be employed to advantage; but even then the beekeeper will have to look after the matter of temperature and ventilation in the cellar.



MORE AND MORE the whole beekeeping fraternity has settled down to the conclu-



WIND-BREAKS VS. PACK-ING

sion that wind-breaks for bees wintered outdoors are vitally important. No matter how well the bees are

packed, if they are out in the open, exposed to strong wind-sweeps, there are quite liable to be some winter losses before spring, especially with these colonies whose entrances happen to face the prevailing winds.

Windbreaks are important south as well as north. If we had to choose between suitable shelter from the prevailing winds or ample packing, we would unhesitatingly select the former. But it is very important to have both in all northern localities, and packing may do a world of good in southern states. It is not alone important to bring colonies thru till spring; but from an economic point of view, as well as for the health of the bees, it is important to keep down the consumption of food to the lowest point possible.

In the southern states, except in some localities, bees can fly almost every day. In some places they can gather considerable pollen, and perhaps a little nectar. All this incites brood-rearing; but brood-rearing may not replace the loss of flying bees that are chilled or worn out and never get back to the hive. Beekeepers in the South might just as well wake up to the fact that their wintering problem, in some respects, is more difficult than in the North. Southern wintering requires more stores, twice over; and even then the chances of starvation will by no means be removed. While a colony may not starve it will not do much brood-rearing unless it has plenty of stores and pollen.

From every point of view, windbreaks and packing are important south as well as north; and the sooner the southern bee-

keeper gets it out of his head that there is no wintering problem in the South, the better. Even if he does bring his bees thru, the weaklings during the chilly bad weather in early spring in the South will never amount to much. It should be remembered that the South has the problem of springing as well as of wintering bees; and by no means the least is the springing.

RECENT RAINS have given white clover—in fact, all the clovers—a wonderful start

forward. On a recent automobile trip to the Ohio field meet which

CLOVER PROSPECTS FOR COMING YEAR

was held at Wilmington, Ohio, we observed that white clover was very promising and abundant thruout the state. Recent reports show a like condition thruout the white-clover belt of the United States. Some beekeepers go so far as to say that white clover has not been so promising before in twenty years.

The late spring and summer rains gave the young seedling clovers a big start; and recent fall rains have given this same clover a big boost. The present high price of honey, and the possibility of what the United States Government may do, and what the European governments have already done, in eliminating the use of cane sugar, makes the prospect of the beekeeper exceedingly bright for the next twelve months. At the present high prices every effort should be made to put bees in good wintering condition. A good colony next spring in May will be worth two or three half-strength colonies that will little more than pull thru the winter.

If we get anything like a good season next summer, there is nothing in all the world that will pay a bigger dividend on the farm or ranch than bees.

THERE ARE TWO or three different foul-brood cures, so-called, that are being sent out broadcast over

SO-CALLED FOUL-BROOD CURES the country. One of them, at least.

recommends removing the infected hive from its stand to another stand, leaving the flying bees to go into hives near their old location. In ten days the hive is moved back to its old stand where the bees go back to the other location into other neighboring hives. Last of all the old combs are melted up. Such

a procedure would scatter American foul brood most effectually in the hives where these bees go. In fact, there is no method that will scatter American foul brood more thoroly and more rapidly except the spreading of diseased honey thruout the yard.

Beekeepers would do well to follow only the methods recommended by the Bureau of Entomology, Washington, or those methods authorized by the regular foul-brood inspectors of the various states having foul-brood laws. So far as we know, the methods of cure found in any of the standard text-books are reliable and effectual. Look out for the new cures, the authors of which may be honest enough to think they have something new and effective, but which, nevertheless, are dangerous.

TWO BULLETINS of unusual interest have lately been issued by the Canadian

Department of Agriculture—
TWO CANADIAN BULLETINS the first. Sessional Paper No. 16, being a report from the Bee Division of the Dominion Experimental Farm, and the second, Bulletin No. 26, "Bees and How to Keep Them." Both of these were prepared by F. W. L. Sladen, Dominion Apiarist.

The first paper is an interesting summary of experiments at the various experimental stations. Mr. Sladen in the preparation of this was assisted, of course, by the superintendents of the various stations. The report covers experiments in wintering, controlling swarming, etc. In each instance a brief statement is given of the bee pasturage, the production of honey, etc.

Bulletin No. 26, "Bees and How to Keep Them," replaces Bulletin No. 69, "The Honey Bee," now out in print. The present bulletin has been brought up to date and is a very complete work, one of the best bulletins, in fact, that has come to our notice. The illustrations deserve special mention. Plate 1 contains an excellent photographic reproduction of the worker, queen, and drone, as well as a corner of a brood-comb showing capped worker brood, drone brood, and queen-cells. There are splendid pictures also of several of the important honey-plants including alsike clover, white clover, white sweet clover, fireweed or willow herb, and goldenrod.

As stated in the introduction, the purpose of the bulletin is three-fold—to point out the advantages of beekeeping, to give advice to beginners, and to show how profits may be increased by the adoption of

modern methods. The advantages of bee-keeping are given, and some very good advice as to ways and means of beginning. Quite an extensive description of bees and bee life is given, followed by advice regarding hives and parts, handling bees, etc. The beginner, in fact, is carried right thru the season, most of the work among the bees being illustrated.

On pages 29 to 32 a list of the principal honey-producing plants in Canada is given with their approximate seasons of yield.

Swarming and swarm control come in for their share of the discussion, followed by wax production, different methods of wintering, transferring, uniting, requeening, and feeding.

An up-to-date report is given of bee diseases, symptoms, methods of cure, etc. We note that foul-brood laws have been passed by the following Provincial Legislatures: Ontario, Quebec, British Columbia, Manitoba, New Brunswick.

There are beekeepers' associations in Ontario, Quebec, Manitoba, New Brunswick, Kootenai, and British Columbia, the Ontario Association being the largest, with 1130 members in 1915. The Quebec Province Association held a two-day annual convention at Montreal last November, the proceedings of which were carried on in the French language.



TO THE MAN located in or near some town, who is starting in the bee business,

we desire to call



THE TOWN BEEKEEPER attention to the article "Laws AND THE LAW Relating to Bees" in the new

A B C and X Y Z of Bee Culture. The new comer in the bee business, located in or near some town, is the person who quite often gets into difficulties with some of his neighbors by reason of his bees. Sometimes the beekeeper is the party to blame, and, again, he is not. In either case it is necessary for him to know his rights in the matter, so that if he is wrong he can put himself right; and if he is right he can't be imposed upon.

The article in question is a digest of the cases that have got into court wherein bees have been the basis of the trouble. In the principal cases the facts are given, and the reasoning of the court, and the decision, based on such facts. In all cases citations are given as to the page and volume where the case is reported.

As stated in the preface of the new A B

C and X Y Z, this article is written by a practicing lawyer, now located at Honolulu. He is also a member of the bar of the state of California and of Indiana. And not only is "Laws Relating to Bees" written for the information of beekeepers, but it also contains complete citations to all authorities, so as to be of value to the lawyer who may be called upon to defend a bee-keeper in court. There is also considerable material of value to a lawyer, in cases relating to bees, that is not to be found in the law digests and reports; as, for instance, the argument of Judge Williams before the Supreme Court of Arkansas in the Arkadelphia case (this was the case where the court held that bees were not *pér se* a nuisance), and the notes on the evidence adduced in the Utter case, in which case it was proven that bees can not injure sound fruit. In fact, the A B C and X Y Z of Bee Culture is the most complete law-book published on matters pertaining to bees and beekeeping.



A BEEKEEPER LIVING at Huntington, Ind., has written us that he recently went

before the city
council to plead
DO
Likewise
on vacant lots
within the city

limits. He told the councilmen of the high qualities of sweet clover as a honey-producer, for pasture and hay, as an enricher of the soil both as to nitrogen and phosphorus, and asked the officials to spare it during the war and thus help to conserve the food supply. That city council passed a resolution on the spot taking sweet clover from the list of weeds that were to be destroyed as directed by ordinance. So the fine growth of sweet clover in Huntington on vacant lots stands and the bee pasture has been doubled. It would very greatly increase the source of honey production if beekeepers everywhere would go before city, town, and borough councils, county commissioners, township trustees, and road supervisors, and lay the true facts about sweet clover before these bodies. Most of them, when properly informed, would spare sweet clover for the bees.

READERS, TAKE NOTICE

On and after Nov. 1, 1917, subscription rates for GLEANINGS IN BEE CULTURE will be changed as follows:

Two years in advance, \$1.75

Three years in advance, \$2.50

Five years in advance, \$4.00

The regular yearly subscription rate remains as heretofore, \$1.00 a year.

THE A. I. ROOT CO., MEDINA, O.

TO pack or not to pack — that is the question. Whether 'tis better—but, no; I refrain. But I do want to plunge right in-

to this wintering question. There have been a number of interesting and courteous replies to my request, page 624, August, for experiences or opinions. They have come from honey-producers and queen-breeders in different southern states, and I shall just quote extracts from most of them, so letting them speak for themselves.

From North Carolina comes testimony to the value of packing. Mr. L. Parker, of Benson, North Carolina, writes: "Tho I have never experimented with winter packing very much, yet I have to some extent. What I have tried has been perfectly satisfactory, bees usually coming out from 19 to 50 per cent stronger than the ones that were not packed. I think it well pays to use winter packing."

Mr. F. L. Johnson, Mount Airy, North Carolina, whose father has an article on this subject in this number of GLEANINGS, page 761, writes: "There is no doubt but that winter packing will pay every bee-keeper in this section. I have not tried the packing very much, but have seen enough of the results to know that it will pay for the extra cost and time."

And Mr. H. B. Murray, of Liberty, North Carolina, offers the following: "We have packed our bees in the past, some, and think it *pays very much*. We use different methods—board coverings, pine straw around hive and on top, fastened with wire or strings, body shaped like hive-body, with felt or rubber covering, which is a real ideal way—a little expensive. I suppose that, for a man with three or four hundred colonies to start, the pine-straw plan would be best. We control several hundred colonies, and use the above methods as most convenient to our yards."

On the other hand D. T. Gaster, Randleman, North Carolina, says: "Some years ago I packed my bees in the fall with wheat chaff for two or three winters. Then my apiary got so large I left some unpacked, and I could not see that the packed ones came out enough ahead to pay me to pack them. So I quit. The main thing is to have plenty of bees and plenty of stores, and they will come out O. K. here where we don't often have over ten days at one time but that bees can take a flight. As

TO PACK OR NOT TO PACK

Interviews with Many of the Southern Beekeepers on this Question that is so Important at the Present Time

By Grace Allen

for myself, being a queen-breeders and taking out queens and changing things around so much, I try to winter some very weak, and

lose some one way and another."

Mr. Bruce Anderson, of Winston-Salem, North Carolina, who sent in a partial report of his experiments last month, has recently very kindly loaned me his note-book, filled with all sorts of interesting data as to work done in yard, weather conditions, opening and failing of different flora, and so on. From this little book I figure that his average honey production this season from hives in winter cases was $37\frac{1}{2}$ pounds, while that from hives not in cases, tho with supers of leaves and wrapped in paper, was 36 pounds.

Mr. G. H. Merrill, writing from Pickens, South Carolina, says: "Last winter was the first experience I have had in packing. The colonies that were not packed wintered just as well. But I am planning to pack some this fall, as I have a yard that has no protection from the north winds."

From Cordele, Georgia, comes an interesting letter from Mr. J. J. Wilder, the well-known successful honey-producer whose fifty or more yards count up into thousands of colonies. Either winter packing is profitable thruout this entire country, or there is a line dividing the section where it is profitable from the section where it is not. Evidently Mr. Wilder assumes this line is north of his part of Georgia, for he says he is too far south to be able really to help out in this discussion—a remark somewhat impressive of itself. But, continuing, he tells of two apiaries up in the Blue Ridge where he spends his summers—tho not his winters.

"It is about as cold there as anywhere in the South," he writes. "Winter before last some of those colonies were lost. It was a very mild winter too. Last winter was a severe one and no colonies were lost, and they made a great crop of honey this year. So severe cold was not the cause of the loss. Then, too, the past spring was cold there; trees with full-grown leaves were frozen, and the forest hangs with dead leaves even yet as a result. Yet the bees have made good, and I never saw the like of beautiful white honey during the seven years I have been going up there."

"So I could not and would not advocate winter protection, further than plenty of

good winter stores and strong colonies. I can't winter a weak colony even in South Florida. So uniting is necessary in case of weak colonies, and we do considerable of this. Winter protection is no problem in the South; and as we have so many we should not dig up more, is my honest belief. A good cover extending six inches out over the hive all around, placed on the regular cover, and well weighted down, so as to ward off dampness, is all that is necessary, saying the least of it. More should be said about preparing the bees properly. If this is done, all is well."

The three following notes from Alabama suggest similar views. Mr. W. D. Achord, of Fitzpatrick, Alabama, says: "We have never thought it worth the trouble and expense to pack our bees for winter, and do not protect them in any way. I presume they do use more honey when not protected here, but do not think I could gain anything in any other way by protecting them."

"I have never packed any hives for winter," writes Mr. J. A. Jones, of Greenville, Alabama. "I don't think it is necessary in this state. My bees winter all right in a single wall with plenty of stores."

Mr. T. J. Talley, also of Greenville, writes: "My way of preparing bees for winter is to put in young queens in October or November, and plenty of stores. I hardly ever lose any. I don't pack my hives in anything."

From Mr. Porter C. Ward, of Allensville, Kentucky, comes a very interesting letter. Mr. Ward is a very busy farmer-beekeeper, successfully operating a good-sized farm and 150 colonies of bees. He writes, in part: "I winter in the ordinary hive, ten frames, giving no protection of any kind—don't even contract the entrances, unless I happen to know of a weak colony. As a rule tanglefoot gives us a good surplus in September. This is taken off in October; and as I take it off I try to notice that each colony has stores enough for winter. After this is done, I pay very little attention to them until spring. Carelessness and press of other business causes my losses to be much heavier than they would be had I the time to give them the attention they ought to have. With close attention there is practically no need of any loss at all. As it is, my wintering losses will probably average 5 per cent. The loss could be reduced to 1 per cent or nothing, had I the time to see that every colony had stores enough and that none were queenless. These two things cause practically all the loss."

I have never tried packing, and don't know of any one who has. I have so little

faith in it that I am not going to try it. I can't see that the extra labor and expense would be worth while, since I already have strong colonies by the time I need them. And then I am sure it would not reduce my winter losses any."

Getting into Tennessee, the following comes from Mr. Curd Walker, queen-breeders, of Jellico: "My average loss is less than 2 per cent, and has been for a period of ten years. I have wintered in different ways, but here is my best way—in the Root Buckeye double-walled hive. I also get good results from the ten-frame hive, using two bodies and an extra super on top with chaff filling, with the metal cover, and protected from the cold winds with breaks. About all the difference I can get from packed hives is more early brood, which means a lot in the black locust and poplar flows. I am aiming to try some of Dr. Phillips' winter cases this winter, as I am always trying to improve."

Mr. J. M. Buchanan, Franklin, Tennessee, says: "I think bees will come out of packed hives in better condition than when not packed, but whether the difference will justify the expense and labor is still an open question. Personally I doubt it."

Of particular interest is the following letter from our state inspector of apiaries, Dr. J. S. Ward: "Out of forty colonies last winter I lost only two—both of them queenless. My bees were wintered in two-story standard ten-frame hives with contracted entrances. Each colony was given from eight to ten frames of sealed stores, and the results were very gratifying. Each colony came out strong and vigorous in the spring. I plan to experiment with sixteen hives in packed cases this winter. I am persuaded that winter packing will be very helpful, even in the South, but I am not persuaded that the gain will justify the cost. In my work over the state I do not find heavy losses in the apiaries of progressive beekeepers. The winter losses, as reported, occur in yards of the careless untrained beekeepers. Where box hives, old gums, and cracker-boxes are used, and no attention given to winter stores, the winter losses will always be heavy. Education in the use of standard equipment will cut down the losses and give gratifying returns in the honey harvest."

Now, making allowances for a few apparent misapprehensions as to what winter packing aims at, the majority of these expressions seem to summarize about like this: If anybody tells us, as they have told us in the past, that winter packing is necessary in the South because our winter

losses are so startling, we remain unconvinced. Those of us who are present at the conventions where these things are discussed, or read the journals in which they are treated, do not have these startling losses. The education of uninformed beekeepers is another problem—a serious problem, too, and a pressing one, but quite different from the one we are discussing. This one resolves itself into the simple question whether or not the profits of progressive, successful beekeepers will be increased by winter-packing their bees. Some southern bee-men think it will, especially in North Carolina. More think it will not, especially in Georgia and Alabama. The rest of us are going to find out for ourselves. But remember, please, everybody, we are doing this, not to lessen that dreadful 50 per cent loss that we don't have, but to see if perchance our colonies may consume less stores, or come out a little stronger in the spring, and so be better prepared for the honey-

flow. And we do hope they will. We expect, or hope, the packed bees will be not only better, but enough better to make the labor and expense pay—to produce a gain, as Dr. Ward says, that will justify the cost.

It may turn out to be a big thing for us, this winter packing in Dixie. I wish every beekeeper progressive enough to read GLEANINGS would try it this fall. Pack them four hives in a case, or two, or singly, but, as Mr. Hawkins said to me, "do be sure to use *enough* packing—not less than six inches on six sides." Let's do it early, too—better not at all than too late. We can get our plans all made this month, and material assembled; then when the first touch of frost comes, we shall be ready. They should all be packed by the end of October or by early November.

But first let us be sure that there are good queens in every hive, plenty of young bees, and thirty pounds or more of stores.

Nashville, Tenn.



OUTDOOR
wintering
versus cel-
lar wintering;
large hives ver-
sus small hives
—these and
other debatable
subjects in con-

nection with beekeeping are generally live items for discussion among beginners and younger members of the craft. On the contrary, experience generally mellows one's opinions, and, as a rule, there is less prejudice and more or less uncertainty voiced by older members of the profession when their opinions are asked for on these said debatable questions. To illustrate: While not counting myself "old" by any means, yet I well remember my former attitude on the hive question—an attitude, by the way, that just now causes me to smile. I was brought up among surroundings where nothing but very large hives were to be considered. My grandfather used a hive, and I still have many like them in use, that had a brood-nest equal to about 18 L. frames. Actually I almost pitied the poor unfortunate who was so misguided as to use so small a hive as the eight-frame L. hive. Well do I remember listening with rapt attention to a debate on the hive question at the Detroit convention, the large hive ably championed by our friend Holtermann, while the small

CELLAR OR OUT OF DOORS

*It Makes Very Little Difference
Provided there is an Abundance
of good Stores in the Combs*

By J. L. Byer

hive was upheld by a Michigan beekeeper—Mr. Chapman, if I remember correctly. Frankly, while much interested at that time, to day I

would not go across the street to listen to a debate of that kind. Why? Simply because fate ruled that a large apiary in eight-frame L. hives was to come into my possession; also another apiary with hives about midway between the eight-frame L. and the extra-large hive mentioned. Not being in position to change these hives into uniform equipment we have run them as they were for a few years. What has been the result? In the past season, which was a fair test, as conditions were about the same at all yards, I find that our average per colony among the different apiaries did not vary five pounds per colony, no matter if one apiary was in eight-frame L. hives and another in hives more than twice as big. No, it is not a question of size of hive, but of adapting radically different management to radically different hives. No, this does not signify that a beekeeper cannot lawfully have a hive preference; but the point I wish to make is that the hive alone is not necessarily responsible for any increased yield over some other style of hive.

These thoughts were forced on my mind by reading Mr. Doolittle's article on page 1066, Oct. 15th issue, last year; and, candidly, I am afraid that I shall have to except Mr. Doolittle from the claim that age mellows our views, for surely he is *prejudiced* in favor of cellar wintering. His experience and conclusions on some points are so at variance with the common practice of hundreds of beekeepers living further north than he does that I feel like making some remarks on the subject, even if I run the risk of being called presumptuous.

He says that in outdoor wintering he had a loss "several years that went above 75 to 80 per cent of the colonies left out." Surely for his latitude there was something radically wrong, either in strain of bees, method of packing, quality of stores, or some other factor. Why, I can take him to a chain of apiaries (not our own) where the bees have been wintered outdoors for many years, and the loss for five consecutive years will not average 5 per cent. This is exceptional, I will admit; but where to look among professional beekeepers to find losses of 75 to 80 per cent in any one year would be a problem. One hundred miles north of Toronto, and just two miles from an arm of the Georgian Bay, we have an apiary of over 200 colonies. In this locality it is not so very uncommon for the thermometer to register 40 below zero. We make no claim for the future, but simply give results in wintering for the four years they have been wintered there. We have had losses from queenless colonies, and in the four years three or four colonies have been smothered by hive-entrances becoming clogged. Last winter two colonies starved. Aside from these losses not a single normal colony has died in the four seasons. At present 280 colonies are in that yard; and when it is considered that we sometimes do not see the apiary from late in October till the following April, can it be wondered at if we begin to inquire the why and wherefore of 75 to 80 per cent losses for a number of years?

So much for winter losses, and now a word or two about the amount of winter stores consumed. Frankly, I know little about cellar wintering. For six years, here in York Co. I wintered about 40 colonies in the cellar with varying results. Only one year did the cellar-wintered bees outstrip the others during the honey harvest. During the winters of 1911-'12 and 1912-'13, over 200 colonies were wintered in caves out in Leeds Co. These caves were

about as near perfect as any repository could be, and the bees all came out alive each year. But they were behind the outdoor bees each year for all that.

Mr. Doolittle gives the weights of the two lots tested, figuring from Nov. 20 and April 19, and found that the cellar-wintered bees had an advantage over the outdoor bees to the extent of over 11 pounds to the colony saved in stores. I do not doubt it a bit, provided the bees had a good cellar to winter in. But it would have been a fairer test to weigh those two lots of bees on May 19, and then I venture to say the difference would not have been so pronounced in favor of the cellared bees. In fact, if there had been an early willow flow in the interval, the chances are that the difference would have been in the other direction. At least that is what would likely happen here in "our locality."

Always, in placing cellar-wintered colonies alongside of well-wintered stocks outside, in the early spring more stores would be present in the former than in the latter. A month later the reverse was always the case, the explanation being that the outdoor colonies had used up more of their stores earlier in brood-rearing.

As on the hive question, I am not prejudiced on this problem of wintering, for I certainly know that the majority of our producers in Eastern Ontario still winter in the cellar. On the other hand, I do not for a moment think there is the extreme difference in favor of one system over another, as Mr. Doolittle's article would lead one to believe. While I write, I can think of quite a large number of extensive beekeepers in Ontario who formerly wintered in the cellar exclusively, and today are outdoor winterers with no thought of changing their system. While there may be some who have changed from outdoor to cellar wintering, I cannot recall any. Is it conceivable that these men who make their living out of bees—in fact, keep bees for that purpose—would follow any system showing such a decided disadvantage when compared with another way? The question is easily answered, and needs no further argument. I have made no exception to Mr. Doolittle's locality as compared with our location, as he lives considerably south of us and should at least have a climate no colder than ours. From correspondence in the neighborhood of Syracuse, I know that they often have days warm enough for bees to have a flight when such is not the case with us. Mr. House, near that place, has an ideal wintering repository, and yet I remember when visiting

him a year ago last December the repository was not nearly full of bees, while within a few yards of the building, somewhere between one and two hundred colonies were wintering outside. Mr. House is a business man; and I am convinced that, if he expected any huge losses, he would have soon carried the whole outfit inside.

In conclusion, let me say that what I am saying is mostly for beginners. Do not expect that any particular style of hive will make a difference between success and failure; and if you live in central or western Ontario, or in other sections in the same latitude, or further south, do not bank on any particular system of wintering as

being the *only* thing. Bees can be and are being wintered successfully both inside and outdoors. Try the two methods if you wish, and so decide for yourself. At the same time you are pretty sure to be on the right track if you follow the methods of any successful beekeeper whom you may happen to have near you. No matter how you winter, first-class preparation in the fall in the way of providing abundance of good stores is the main consideration. Thus prepared, it is wonderful what amount of other unfavorable circumstances bees will successfully weather and still show up ready for business in the spring.

Markham, Ont.



IT has been said, upon good authority, that the wintering problem is the most serious of all for the beekeepers of the northern states.

The beekeepers of the southern states have, in the past, considered the wintering of bees a problem which did not concern them. It has been the attitude of most of the beekeepers of this state that the bees could be almost disregarded from the end of one honey-flow until the beginning of the next. It is possible now to see a movement, on the part of the more progressive beekeepers, to look into the matter of wintering bees. After the spring of 1917 it was possible to get into a discussion with almost any beekeeper on the topic of wintering bees. It is conceded now by a great number of the better beekeepers that in Texas it is necessary to look carefully into the matter of wintering—that it is really a problem. By this it is not meant that it is about to be advocated that the beekeepers of Texas will have to employ cellars or heavy packing-cases to carry their bees thru the winter successfully. There are many other factors which contribute to the great winter losses suffered in this state.

Of course it is understood that conditions in the different beekeeping sections of this state vary as much as between widely separated northern states, and for that reason it is possible to suggest only general principles that are to be carefully worked out for the various sections. To enter into

a discussion of the details of wintering in each section cannot be included at this time.

The time from the last fall honey-flow to

going into winter varies greatly in the different sections from two or three weeks to as much as four or six weeks. Of course, during this time the bees are quite active and are consuming their stores rapidly. It very often happens that the colonies will have a brood-chamber full of stores at the end of the honey-flow, and if inspected the beekeeper will consider them in good shape to go thru the winter without further attention. However, the bees should be inspected as late as possible before the winter weather sets in; and if they are short on stores more should be given them.

The best feed to give such colonies is sealed honey in brood-frames. It is advisable to have some surplus honey stored in brood-frames for this purpose. It is seldom advisable to take frames of sealed honey from those colonies that are apparently extra well supplied at the beginning of winter. The chances are that they will need it before the honey-flow of the following spring if they are to be in prime condition at that time.

We are now at an oft discussed question of whether an eight or ten frame hive winters better. The ten-frame hive allows more space for stores; but, on the other hand, they require more heat to keep them warm, which means that more stores are consumed. It is very doubtful if this is of

WINTERING BEES IN TEXAS

Cold Winds Rather than the Low Temperature Necessitate the Extra Packing Thru the Winter

By F. B. Paddock

sufficient importance either way to be the deciding factor in successful wintering. The same may be said of the practice of having extra stores on the hive in a super. This means additional space to keep warm during the winter. It often happens in this state that some beekeepers will place as many as four supers on a hive to protect the extracting-combs from the attacks of the wax-worm. This is certainly not a safe practice except in the extreme southern sections of the state, and then its wisdom is doubted. It is good to see the fast-growing practice of not robbing the bees as closely as in years past. Even with honey selling at three times what it did three years ago, the better beekeepers are inclined now to leave more honey with the colony, never taking any from the brood-chamber, and many leaving a full extracting-super of sealed honey for each colony.

Without doubt, the best feed for bees to carry them thru the winter is a good grade of sealed honey. It may not always be possible to do this, and the next best material is extracted honey. Only when absolutely necessary should sugar syrup be fed for wintering purposes.

As a rule, a majority of the beekeepers of this state never think of the importance of a good queen in successful wintering. Too often a queen, once in a colony, is not disturbed, and her successor is never thought of until she dies. If a queen fails during the fall flow the chances are much against the colony wintering successfully.

To protect the bees from low temperatures is not as important in this state as the protection from the prevailing cold winds during the winter. The direction of these cold winds varies with the locality—north in one place, southeast in another. Seldom do beekeepers take this into consideration, but leave the bees with the entrance full width, to stand the chilling wind. It is human experience that a low temperature can be withstood much easier than can a cold wind. When considering the winds it is also necessary to take into account the fact that hives standing close to the ground are less affected than are those on high stands. Rarely are high stands used in this state in the large honey-producing yards. They are usually found in the backyard apiary.

The windbreak in Texas is most valuable, not as a winter protection, but in retarding early spring activity, which is so disastrous. In practically every beekeeping section in this state there is a long cold spring, during which time the bees should be kept inactive if possible. One beekeeper had two yards,

located respectively on the south and on the north sides of a small wood lot. The bees on the south side got the full effect of the early spring sun, and were tempted to fly, only to get caught by a cold wind. These colonies were rapidly depleted and could not gather the spring flow of honey. Those bees on the north side were kept inactive until after the period of the cold winds, and consequently were strong enough to handle an early spring flow of honey. In the early spring it gets cold long before dark, and many bees are caught out searching for food and water. Such bees are, of course, lost to the colony. Many advocate a close watering-place at this time of the year, even if supplied artificially. This so-called spring dwindling is now recognized as the serious handicap in this state, and by many is not considered a part of the wintering problem. But it really is, for wintering means the getting of the colony from the fall flow to the spring flow.

The bees should be examined as early in the spring as possible to determine the condition and the amount of stores. The stores should always be plentiful. If they are not, spring feeding is necessary. This, however, must be carefully done or it will induce brood-rearing too early, which only means an unnecessary consumption of stores. Knowing the usual time of the first spring honey-flow in the locality, the beekeeper should make every effort to have his colonies up to full strength by that time, but not before it. Frequent examinations of the colonies are necessary during the spring, and more manipulations are required than at any other season of the year.

Let every beekeeper in Texas realize the necessity of successful wintering of his bees and bend every effort to that end.

College Station, Tex.

[Some beekeepers living in the southern part of the country where the need of extra protection thru the winter is the exception rather than the rule, have seriously wondered whether it is not really cheaper in the end to run the risk and eliminate all expense of packing for the one year in five, say, when it would be a decided advantage. But windbreaks and shelters from prevailing cold winds are needed every year, in the fall and spring as well as in the cold weather. In fact, a sheltered locality is a great advantage for any apiary. It pays to select a spot, whenever possible, where buildings, trees, shrubbery, or high fences break the coldest winds. Mr. R. F. Holtermann even goes so far as to insist on a tight fence on all sides of each of his apiaries.—ED.]

IN our issue for July, I described beekeeping conditions in and about Sioux City, Iowa, particularly with reference to the

growth of sweet clover. In the present article I desire to refer particularly to the dugouts or caves that are used for wintering bees in this locality.

The soil in this part of the country is very deep and firm. One can dig down ten, twenty, or thirty feet almost anywhere and the banks will remain intact year in and year out—that is to say, one can dig a trench or a bee-cellar almost anywhere in this soil, making the sides straight and perpendicular without the necessity of putting in a retaining wall to support the clay. This peculiarity of soil conditions in this locality enables one to build bee-cellars for a very moderate sum.

Mr. E. G. Brown, of the Western Honey Producers, uses a number of these cellars, and he estimates his cost of bee-cellars, $12 \times 16 \times 6$ feet high, inside in the clear, is only about \$25.00. This includes all material and labor. At this figure he can not, he says, afford to use outside winter cases, and it is doubtful whether anything in the form of outside protection would stand the extreme drop in temperature that is experienced in this locality, where the mercury goes down to 40 or 50 degrees below zero, and remains so for days at a time.

WINTERING IN WESTERN IOWA

How Beekeepers in the Vicinity of Sioux City are Wintering in Caves or Dugouts with Almost no Loss

By E. R. Root

Mr. Brown has been using these dug-out cellars with clay bottom and clay walls for a number of years, and the loss has been confined

down to around 1 per cent, not exceeding 2 per cent at most. In Figs. 1 and 2 are two of his cellars, one at the Glen yard and the other at the Belfrage yard. Both of these cellars are $12 \times 16 \times 6$ feet inside measurement.

Mr. Brown digs a square hole 12×16 , 4 feet deep. In each of the corners he sets a post that projects above the surface of the ground about $2\frac{1}{2}$ feet more. Boards are nailed on the outside of the posts, leaving a tight board fence from 2 to $2\frac{1}{2}$ feet deep around the square hole, to catch the dirt as it is thrown out and to avoid re-handling the dirt. He proceeds to build the cellars as follows: With a post-hole digger he puts down four holes into the ground 12 feet apart at the sides, and 6 feet apart on each end. Four fence-posts are put into these holes that are just deep enough to leave the posts projecting above the surface of the ground $2\frac{1}{2}$ feet, as already mentioned. Rough boards are then nailed around the outside of the posts, leaving a solid fence 2 to $2\frac{1}{2}$ feet high. After this, with a pickax and a spade he digs out the ground to a depth of three or four feet, depending somewhat upon the kind of drainage that he has, and general soil con-



Fig. 1.—Brown's dugout winter-repository without retaining walls, at a net cost of \$25.00.

ditions. The dirt as it is dug out is then thrown outside of the wooden enclosure, leaving a nice embankment on all four sides. This saves rehandling the dirt.

A wooden ceiling is then placed over the top of the hole, and over this a gable roof. Between the gable and the cellar ceiling proper is placed a quantity of packing material such as straw or hay. A cellar-way is provided at one end with dirt steps, because the dirt is very solid and firm. When the cellar is properly roofed it is complete and will hold 200 colonies.

A ventilator is provided, reaching thru the ceiling to within six or eight inches of the bottom of the cellar. This passes up thru the packing material, up into the under side of the gable, but not thru the roof. The ends of the gable are nailed up with loose boards, leaving a little space between so that air can pass back and forth. In this way no direct current of air passes down into the cellar, and yet there is perfect ventilation. While such ventilation would be sufficient in climates as cold as this, it would hardly be enough in milder climates.

In Mr. Brown's home cellar he uses a larger dugout and a scheme of ventilation somewhat similar, only the air-pipe goes up into the room above where the atmosphere is changed gradually.

From a general survey of conditions and examination of soil it is very apparent that the most economical and satisfactory way of wintering in this locality is in the dugouts or cellars just described; and the fact that such perfect results have been secured, and the further fact that outdoor-

wintered bees, even when they are packed, do not winter very well, would seem to argue pretty strongly for the dugouts.

In an ordinary locality it would doubtless be necessary to put in a retaining wall, down about the depth that is dug into the ground. It would also be necessary to have proper drainage.

Some other beekeepers in the locality dig cellars into a side hill. This has a little advantage, perhaps, in the fact that there is perfect protection overhead and all around.

In Fig. 2, the Belfrage yard, the building shown is made up of galvanized iron. It is very cheap, and answers perfectly as an extracting-house.

Perhaps the statement of "very cheap," so far as it relates to galvanized iron buildings, will need considerable qualification for present conditions. During the last three years this metal has advanced three times its former cost; and at the present time it would be cheaper to use cheap lumber—the very cheapest and poorest that there is on the market, and cover it with roofing-paper. We have been using Neponset roofing-paper on some of our buildings, then gave them a coat or two of paint, and so far this covering, after ten years of use, is in excellent condition. With an occasional coat of paint there is no reason why it should not last indefinitely. On account of the high cost of sheet metal, roofing-paper will have to be substituted for hive-covers as well as for houses. A three to four ply of asbestos can be used without paint. While it will cost more it will never rot nor require paint.



Fig. 2.—Western Iowa dugout bee-cellar. Galvanized iron extracting-house in background.

FROM THE FIELD OF EXPERIENCE

Wintering Problem in North Carolina

Ten years' experience with bees, starting with 25 colonies and increasing to 100, and then after a few years' work with this last number an increase to 500, gives us some experience in the business along many lines. We have been interested in the wintering problem all along, and have tried several plans in a small way. For several winters we removed four combs from the brood-nest and put in division-boards and packed the empty space on the sides with chaff. We have packed them by putting a super over the colony and filling the super with chaff, of course having a cloth over the bottom of the super. We have wrapped the colonies in tar paper. But in all these experiments we have never been able to see just whether or not it helped the colony to come out strong in the spring.

We are thoroly convinced that all this packing that we have been doing is not going quite far enough; on the same principle that a thin coat might help to keep a man warm in the winter, but an overcoat would be so much the better.

It must not be forgotten that we are below the 36th degree of latitude, and that the temperature is not often below 20. Once in a dozen years it gets down to zero for a day or two. It is not often that bees are confined here for more than three weeks between flights.

As we see it, the most important part of wintering a colony of bees is to see that the queen raises a batch of late brood. With us the queen will often stop laying in the fall, and the colony go into winter with all old bees, or with bees that have seen some field service. We think if a colony is given a good feed, say a gallon of syrup in September, and the queen thus induced to lay, we get bees for winter that see practically no service in the fall. We think that, with a strong force of young bees like these, a colony will winter with plenty of feed under almost any conditions in this climate.

Our experience is that but few are getting half the returns from their bees that they should have, and that better hive-bodies and better winter protection will pay handsomely for all the expense involved.

Our bees are all in tight boxes, well painted, with no cracks or wind-holes. We have generally contracted the entrance in

the fall by a liberal use of mud, closing the entrance to three inches by $\frac{1}{8}$ inch. One of these days, when we can spare the money and the time, we are going to buy winter cases for all our colonies, even if it does cost. We confidently expect that it would pay us handsomely to go the limit in this better protection.

J. E. JOHNSON.

Mount Airy, N. C., Sept. 5.

The Bee Business in Manitoba

[The article printed below has been sent to us by a business firm in Winnipeg, Canada, which frankly admits that it has self-interested motives in advertising the bee possibilities of Manitoba, but adds: "This (bee) article has been handed us by a salaried official of the Government, and we hand it to you to deal with on its merits. It is absolutely reliable, for it has been prepared by one who has access to full information on this subject." With this explanation of its origin, we print the article below, and shall be glad to receive confirmation of its truth from some of our Manitoba friends.—EDITOR.]

Can bees be successfully wintered out of doors in a cold climate? From all accounts that question is to be answered once and for all in the Province of Manitoba, which has a reputation greater, perhaps, than it deserves, for its No. 1 hard weather in winter. Farmers in Manitoba have gone into beekeeping extensively in the past few years and have found it at once the least troublesome and by long odds the most profitable of all "side lines" on the farm. That they have found it profitable is proved by the fact that where 100,000 pounds would be an outside estimate of the honey produced in Manitoba five years ago, official statistics show a honey crop of over 800,000 pounds in 1916.

Two years ago experiments were carried on on a small scale in outdoor wintering. Last year these experiments were multiplied with almost complete success. This winter they will be tried on a larger scale than ever; and if the same success attends the work this winter as was evident before, the question will be considered settled. Attempts at outdoor wintering were induced by the troubles found everywhere in cellar wintering, where dampness and varying temperature often play havoc with the hives. The method tried in Manitoba was to put large numbers of hives in big packing-cases, with a one-foot filling of oat chaff or sawdust between the stacked hives and walls of the packing case, leaving only a

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small ventilating hole. The cases were simply left out in the yard in indifferent shelter, and exposed to snow and weather of all kinds. Healthy, happy, hardworking bees emerged in spring in practically every case with a minimum of winter casualties. The test in the winter of 1915 was unusually severe, as it was the hardest winter known in western Canada in many years, so that the results were looked upon by farmers and experts alike as almost settling the question without doubt.

The Province of Manitoba is fast becoming one of the leading beekeeping provinces of Canada, due to a great extent to the plentiful growth and exceeding sweetness of honey-producing flowers, coupled with the abundant sunshine which allows the bees to gather freely. Official statistics show an average yearly crop of over 100 lbs. per colony while yields of 200 and even 300 pounds per colony are not infrequent. Manitoba honey is of exceptionally fine quality and flavor, and the market readily takes every pound shipped at prices higher than prevail for the imported article. Fine work has been done by the experts of the Manitoba Agricultural College in dealing with local troubles, with the result that bee diseases, so much dreaded by all beekeepers, are practically unknown to the province. Farmers have been well instructed, and several have turned their attention to the business on a large scale.

Hives Wrapped in Paper and Burlap

My method of wintering bees is adaptable more especially to those who are beginners or who keep only a few colonies.

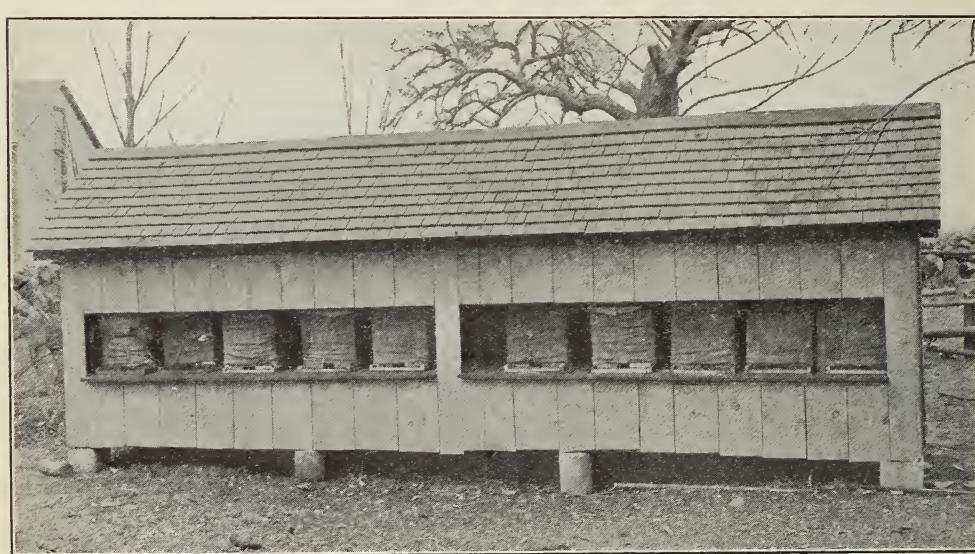
I have two sheds of the type shown in the picture, each accommodating ten colonies. I first put on each hive an empty super, and in the super a chaff cushion. I then take newspapers and fold them so there will be twelve thicknesses, and with strong twine I tie them around the hive. I then take burlap and put over the paper, and with a sail-needle and twine I sew it on tightly, and my bees are well protected from the most severe weather. I use on all my hives a super cover with a glass panel; and when I wish to look into the hive all I need to do is to remove the hive-cover, take out the cushion, and then I can see the location of the cluster.

I have followed the above plan for several years, and in my location it has given fine results. I rarely lose a colony that goes into winter quarters in normal condition. I use the same covering year after year, so that the expense is only a trifle.

I have practiced the roadside plan of selling for five years, having in view of all passersby a sign, "Pure Honey for Sale." In this way I sell a large part of my crop.

REV. J. M. LEWIS.

North Westport, Mass.



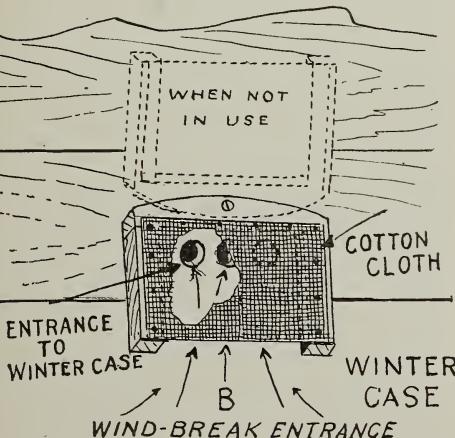
J. M. Lewis has very few winter losses. Each hive is wrapped in 12 thicknesses of newspaper and then enclosed in burlap.

FROM THE FIELD OF EXPERIENCE

Winter-case Entrance Protection

Among the many beekeepers who work quietly and practically, who never write for the apicultural press, is Wm. Atkinson, Selkirk, Ontario. Recently while visiting Mr. Atkinson he showed me an outer cover for a winter-case entrance. He told me what others, including myself, have amply proven, that the cold winds are very injurious to the bees. He also said that the sun's rays shining into the entrance tend to draw the bees out of the case so that frequently they chill during their flight and are lost.

Mr. Atkinson's device consists of a board fastened over the regular entrance of the cage with one screw. This board, as explained in the illustration, protects the bees from the direct wind or the direct rays of the sun. The entrance for the bees thru the case being thus protected the bees can better draw the dead bees to the outer edge of the case and drop them out. The bees, after reaching the outer edge of the case entrance, have to go downward to reach the outlet in the cover to the true entrance, which is about two inches lower. In other words, the inner entrance, or the entrance to the winter case proper, is covered by a board which has a downward entrance thru



it, so that the wind is broken, because the two entrances are not opposite one another.

I do not hesitate to say that this device is valuable wherever there are strong winds and a low temperature. It has the advantage also that it is very simple, and can be added to any winter cases which the bee-keeper may have. R. F. HOLTERMANN.

Brantford, Ontario, Canada.

Why they Swarmed in January

Do your bees ever swarm in winter?

I have twenty hives in my backyard apiary, and winter under the long-shed plan, with open front to the south. One day in January my wife, looking out from the kitchen window, said, "Your bees are swarming!" I rushed out and found the bees pouring from one of the hives in about the middle of the row. The snowbank along the front was well covered with bees crawling about and dying. I put a small strip of wood in front of the entrance to close the hive, lifted the cover, and peeped into the brood-chamber. It was alive with bees, buzzing with all the vigor of a summer-day activity.

Well, I thought, here is the drifting trouble again. This hive has collected so many bees that they are too warm inside, and perhaps have used up all the stores and are making a desperate effort to get out and find something. Forthwith I condemned the shed plan of wintering.

I pulled the hive out and carried it to another part of the yard. It seemed heavy enough to have plenty of honey, and the glance I had at the combs showed some of them with capped-over cells. This was enough to prove they were not starving.

At any rate we were on the track of something, or at least my Boston terrier was; for no sooner had I pulled out the hive than the dog jumped into the opening and dug out a rat's nest that had been made under the bottom-board. The rat was somewhere under the shed, but we did not succeed in routing it out. However, that night it came out and made a new nest under a pile of building-blocks; and by moving these the dog caught it and soon ended its career. The next day I examined the colony. It had settled down to a small cluster that was decidedly weakened and had to be nursed to bring it thru the winter.

The rat had kept up a continual bumping on the bottom-board as it moved about arranging its nest, until the bees were aroused to such a frenzy they had rushed out into the snow and cold of a winter day, ready to die in the defense of their home—foolish bees! Also foolish rat, to make a nest under a hive whose owner has a good dog and values his bees far more than any rat, dead or alive, and likes dead rats much better than live ones.

DR. C. E. BLANCHARD,
Youngstown, Ohio.

FROM THE FIELD OF EXPERIENCE

Conversations with Doolittle

"I have kept a few hives of bees for two seasons, and the past summer gave me good results, therefore I am looking forward to the time when I can depend upon the bees for our living. Do you think it will be safe for me to enter this business as a profession, and depend upon beekeeping for a livelihood of myself and family?"

This is a question I have often been asked, and perhaps it is well to look the matter over more carefully than has generally been done. With a man or woman adapted to the business, a suitable locality, and the adoption of sound business methods, apiculture will compare favorably with other rural pursuits. However, I wish to say there is no other branch of agriculture so apt to mislead a beginner, and inflate him with the belief that a fortune for him is just ahead as that of beekeeping. He is apt to figure from results that have been secured on a small scale, and argue that all he has to do in order to bring about the same results on a larger scale is to increase the business. Sooner or later he strikes an adverse season, and, lo! his bubble has burst, and he begins to realize some of the uncertainties. Then he may go to the other extreme of discouragement, and dispose of his few remaining colonies for about the original cost of the bare hives. If he does this, such action proves conclusively that he is not adapted to the business. If he were adapted to it, he would take care of his hives and combs—do the best possible, and wait for better conditions. Other branches of agriculture are subject to failures. The farmer is never certain of a crop when he puts the seed in the ground, but on the whole his occupation is as certain to bring results as any other, and more so than many. So it is with beekeeping. We can form a correct estimate of the relative value of the industry, as compared with others, only by taking a number of years together.

I believe it is well understood that beekeeping is not an occupation in which we can easily become immensely wealthy. In the very nature of things it could not be so. Like the keeping of poultry, the raising of small fruits, gardening, and other minor branches of agriculture, the keeping of bees in localities adapted to the business can be depended upon to furnish the owner a comfortable living; but such fortunes as are amassed by the railroad king, the coal baron, or the Standard Oil Com-

pany, can never be hoped for by the beekeeper. Fortunately, however, the perfection of a man's happiness bears but little relation to the size of his fortune. Many a man with the hum of bees over his head finds happiness sweeter and deeper than ever comes to these amassers of wealth from others' labors.

Apiculture is an ennobling pursuit. It brings out the best there is in a man, and it keeps him close to nature. But can it be depended upon for a term of years as a means of supporting the family? In some localities it can; in others it can not. Where there is only an unreliable source of honey, no man can depend upon bees alone. In case we wish to adopt beekeeping as a profession, a location must be chosen possessing at least one unfailing source of honey, or else several sources, some one or more of which will most surely furnish a crop. Location is a great factor; but management and a thoro knowledge of our locality is the most important of all. It will not do to be like a beekeeper I once visited who was so ignorant of his location, and so negligent of the wants of his colonies, that he told me that he expected the bees to do well when the basswood came into bloom, whereas basswood had come and gone; and the energetic bees, having had no surplus arrangement provided in which to store the honey, had just filled their brood-combs all that they could, and then loafed the time away, or else had built comb under the hive-stands. With a good knowledge regarding all of the minor resources of his field, and with a management which would leave no stone unturned to meet the basswood bloom, and with everything in readiness at the opening of the first blossoms, doubtless an average yield of 100 lbs. of comb honey, or 150 of extracted, could have been secured from each old colony in the spring.

Many who attempt beekeeping as a specialty are lacking in business methods. They attempt too many make-shifts by way of experiments with hives, implements, and the like. Very few enter the ranks of apiculture without really thinking and believing that they can invent a better hive, or something pertaining to bee culture, that is superior to that which has been used by those who have gone before. I know there is a certain fascination and enjoyment in this; but the best success is sure to come by taking the things which the most successful apiarists use and adopting them.

Enough bees should be kept so that, when




FROM THE FIELD OF EXPERIENCE

there is a good year or two, enough money may be made to tide over a poor season that is quite liable to come. Having two or more out-apiaries tends toward a more even yield of profit. The very fact that the bees are scattered about in out-apiaries, several miles apart, adds to the certainty of a crop.

Borodino, N. Y. G. M. DOOLITTLE.



Letters from a Beekeeper's Wite

Outdoors, October 1, 1917.

Dear Sis:

This is the second time that I have come out here to write under the trees, having been driven in before by the bees. It is such a bright, warm day that they flying about doing a little lazy gathering, and I foolishly chose the big apple tree for my back rest. I watched the bees sipping juice from the few rotting apples left on the ground and then reached out to pick up what I thought was a sound apple. Alas! I gathered up with it a disgruntled honey-bee, who took her revenge upon me for disturbing her meal. My left hand is decorated with a puffy, red spot which still burns.

I have the greatest respect for the "posthumous works of the bee," and it is evident that the bee has too, for she never forgets to use them no matter how agitated or angry she may be. Her immediate reaction to any untoward stimulus is to thrust out her barbed weapon, generally with telling effect. It seems strange that, after centuries of acquaintance with the honey-bee, little more is known today of the poison from the sting than was known to the ancients. No doubt they knew the unpleasant effect of the practical application of her poison by the bee, but they seem to have no better advice to offer for its cure than Rob's, "Let it alone and forget it."

Rob just came up the lane, home from his visit to the Capitol, and, opening his suitcase, he dropped two old books in my lap. He never can resist visiting the rare book store, where Mr. Todd puts aside old books on bees until Rob comes along. These two are extremely rare, and the oldest we now have. Rob won't tell me what he paid for them!

You would love these musty, leather-covered volumes, with their sere brown pages. One is called "The Theatre of Insects" by Thomas Moffett, 1658. Glancing thru the pages on the bee, I find this, apropos of stings, in which I take a per-

sonal and lively interest, just at present. "If you would indeed to go sting-free, or at least heal yourself being stung; expel out of your mind, idleness, impiety, theft, malice; for those that are defil'd with those vices, they set upon to chuse as it were, and out of natural instinct." Which of these vices have I, being stung? Am I impious, if I think Thomas Moffett didn't know what he was talking about, altho his language be pleasing and picturesque, or am I idle that I sit here and write to you?

Wait a moment and I'll see what words of wisdom this other volume contains about stings. This rare book is called "The Feminin Monarchi" by Charles Butler, 1654, and Rob has long wanted a copy, principally because Charles was an advocate of simplified spelling and employed it in his book, as you can see from the title. Dear! dear! according to him, any one would have to be a paragon of all the virtues to be able to keep bees without being badly stung! Just listen to this: any one who would find "favor" with his bees must "be cleanly—must not come among them smelling of sweat or having a stinking breath, caused either through eating of leeks, onions, garlic and the like, or by any other means—" (no bath-tubs nor tooth-brushes in England in his day!) "In a word thou must be chaste, cleanly, sweet, sober, quiet and familiar so they will love thee and know thee from all others." Haven't I often told you what a superior group of men beekeepers are?

Rob's old bee books are full of just such quaint and often good advice, and, considering the difficulties the beekeepers of the middle ages must have encountered in observing the life of the hive, they knew a great deal. I imagine that their beekeeping consisted mainly in letting the bees alone, a practice that modern beekeepers are coming back to, to a certain extent, I believe, for I hear Rob preaching about the evil of too much manipulation. It seems too bad that those old-time bee-men destroyed most of their bees at the end of the season, in order to get their products, for think how flourishing and profitable beekeeping must have been then, when all the artificial light depended upon wax candles, and honey was the chief sweetening!

My sting still burns, so I shall stop writing hoping thereby to "expel idleness from my mind," and thus heal it. The bee is dead! At least I hold no malice against her—she has paid the price of her revenge.

MARY.

FROM THE FIELD OF EXPERIENCE

Disappearing Bee Disease

[On page 671 of our September issue we quoted Mr. S. D. House, of Camillus, N. Y., as believing that the cause of the Isle of Wight or disappearing disease was due to the eating of too much pollen, and a lack of honey or nectar. Mr. R. F. Holtermann, of Brantford, Canada, one of the most extensive beekeepers on the continent, and one who has had a rather severe attack of the disappearing disease this season disagrees with Mr. House, and the following letter explains his reason for believing that the malady is due to a germ.—Ed.]

Your editorial giving Mr. House's opinion of the cause of Isle of Wight disease in the September number of GLEANINGS is before me. I will give briefly my reasons for disagreeing with him and asserting that the Isle of Wight disease is a germ disease.

The symptoms in connection with the disease under discussion have been absolutely unknown (so far as public records go) for many years—in fact, until quite recently. We have had damp seasons, we have had poor seasons during which bees gathered little honey and much pollen, and yet I kept bees for 35 years during which I came in contact with many beekeepers without ever hearing of a disease such as this. It must, then, be something more than pollen and moisture.

This year during the damp weather I noticed a conspicuous and peculiar condition in two apiaries. The bees would rush thru the grass as if trying to get away from a foe against which they had no power. The four wings would be raised and the pairs separated. They appeared to me to be emaciated and light; and wherever there was a bit of bare ground there could be found a bunch of dead bees. This disease bears no resemblance to bee paralysis. I had a slight experience with that disease fifteen years ago. Then the bees appeared paralyzed, not active. They would bunch up on a chip, entrance-block, or piece of wood and appeared to be almost unable to move. From widely separated beekeepers this season I have heard the report of symptoms similar to such as I saw among our bees this summer.

Having bees in ten apiaries and under varying conditions I began to observe that the disease showed up worst where the apiary was much shaded, and where high fences prevented a current of drying air passing thru. We had a lot of cool and damp weather during May and early June, and the ground and vegetation were almost constantly wet. In the Ebert yard I drew the attention of one of my sons to a serious condition. In a few colonies (only some colonies in an apiary appeared to

have the disease) almost all the old bees seemed to have (yes, had) disappeared, and only young bees and brood were left in the hive. This apiary was well shaded. The Knisley yard was not so bad, but there were lots of dead bees in the grass. This apiary is fenced and shaded.

Then I reasoned this way: The Isle of Wight has a moist climate, and there beekeeping was practically wiped out. The germ must have a moist atmosphere to give it favorable conditions for doing its deadliest work. We have the disease among us; but it will not do us serious damage unless the season is very damp, as the last two seasons have been. As soon as the idea struck me I made large openings in the fences, let the air circulate to dry out the ground partly upon which the bees stood, and upon our next visit, some five days after, we noticed an improvement. Of course the weather was getting to be less humid; but judging from conditions in these ten apiaries I would advise, for the prevention of ravages from this disease, that beekeepers have only a moderate amount of shade in the apiary, and take enough of a winter fence down during the summer so as to give a free circulation of air about the hives. I have no doubt whatever that we would have had a larger honey crop in the above-mentioned apiaries had the disease not been present.

R. F. HOLTERMANN.
Brantford, Ont., Canada.

[Miss Fowls, whose article appears on page 681, Sept., after reading the above, says that her father didn't kick any boards off his fence (because he didn't have any fences), and yet the disease disappeared anyway in a few days. Among Mr. Fowls' six apiaries the one where the disease was the worst this year was on high ground with free ventilation between the hives. There have been many cures suggested, such as moving the hives a few feet, changing brood, changing queens, sprinkling with sulphur or salt, feeding medicated syrup, all of which have seemed to help. But what shall we say when in so many instances the trouble disappears of its own accord? How can we tell whether the treatment is responsible for the cure or only incidental to it? The source of the trouble would be easier to locate if the disease did not mysteriously go away of its own accord; and yet we can be thankful that so far in this country it does disappear in a short time.—Ed.]




FROM THE FIELD OF EXPERIENCE

Honey Dew that Wasn't so Bad

Is it not a bold statement, when a bee-keeper asserts that his honey is "pure clover," "straight raspberry," or what not? In a country of diversified growth, who can say (unless after very close and painstaking observation) what the bees derive stores from, and what they do not? From time to time mention has been made of bees feeding on exudations from certain trees, conifers, chestnuts, etc. Nor is it all "nasty dark stuff" from these sources. The latest on the subject is in your issue for January, describing how the bees worked on *Pinus glabra*. If Mr. Baldwin (page 50, January, 1917) were to visit this country in June or July he would have no occasion to show surprise at the goings-on of the Florida bees. This is a land of conifers, the coast region being covered with a dense forest of firs, spruce, hemlocks, cedars, with a sprinkling of maple, cottonwood, arbutus, etc., with a few oak in spots.

From observations extending over many years I am convinced that bees derive their surplus (thru June and July) mainly from forest growth, the Douglas fir being the chief source. In the forenoon the ground under many of the firs, particularly isolated trees, will be well spattered with the exu-

dation, and the needles studded with pale-amber diamonds, and plenty of bees, should there be any in the neighborhood. Some seasons this source will provide two or three supers of sections. The capping is always rather dark, the honey pale amber and fair in quality, but it granulates quickly. The honey should be taken off in good time, as later something may be put in which is not appetizing.

In talking over this matter with Mr. J. R. Anderson, Ex-deputy Minister of Agriculture of this province, he states that he has often seen honey-dew in the heavy timber in such quantity that the whole of the foliage looked as tho coated with varnish. Altho bees gather this at the outskirts of the forest, he thinks they do not go far into the forest in search of feed.

There is but little else for the bees in this district, Southern Vancouver Island, the famed white clover being a negligible quantity.

Some years ago we had a serious visitation of cutworms, about midsummer. A field of carrots was badly infested, and was visited at the same time by bees in large numbers feeding on the bitten tops and leaf stems. I never heard of carrot honey, but no doubt some was gathered that season.

Victoria, B. C.

E. FLEMING.



A bit of beautiful hill country in British Columbia near Victoria.

FROM THE FIELD OF EXPERIENCE

Wintering in Florida and Summering in the North

There is not a beekeeper from the northern portion of our country who is more welcomed to Florida during winter than G. H. Adams, of Schenectady, N. Y. He is a keen active lad of 65 winters, and has been keeping bees since he was 16 years old.

There is, perhaps, no one else who has come so near solving the problem of bee-keeping north and south. First he spent a winter here looking around and planning; and by the time he was ready to go back north he had bought a small orange-grove and a small plot for an apiary site. He was so anxious to get back south to carry out his ideas that he could scarcely wait for the summer fully to pass.

Before we hardly knew it he had bought bees all about the country, including one yard of 55 colonies located a few miles from Bradenton. As soon as the first honey-flow came on, he increased this apiary to 81 colonies, the increase raising their own queens besides a few to replace those he killed. A small per cent of these queens were lost in mating, and such queenless colonies he set to work building more queen-cells.

On again coming south for the winter he found seven colonies dead and their combs eaten by moths, but these were the weaker colonies and did not contain much comb. This left him 74 colonies all in the best

condition. I was much interested in this venture; and so when Mr. Adams reached his apiary I was on hand as were also several other beekeepers. I took a picture of the yard before it was touched or molested, just as it was left six months previous (see cut). Weights had been put on each hive for fear a storm or heavy wind might blow off the covers. We were surprised to see what the "let-alone plan" had done and how small was the variation in the amount of surplus stored by each colony. They were rousing colonies, and yet they had been obliged to build most of their comb two in each brood-chamber, and all but one or two combs in each super. Every super had been given one or two combs for bait to induce the bees to store above. Also each top super was raised half an inch at the rear, leaving good ventilation above the cluster. This, together with the cut-up condition of the brood-nest, and the great amount of storing room above, must have helped in the prevention of swarming, and thus been the direct cause of more storing. The amount of surplus stored must have averaged considerably over 40 pounds. The original 55 colonies cost him \$290. There was also the wax, the increase, and the ready-built combs.

By trying such a plan it seems to me other Northerners might winter in the South, and at the same time make something above expenses.

Bradenton, Fla. J. J. WILDER.



Florida apiary owned by a northern man, G. H. Adams, left entirely alone from spring until fall.

FROM THE FIELD OF EXPERIENCE

Wintering in the South-Central States

We of the "Sunny South" are very much inclined to look on the problem of wintering bees as being one of little importance, generally trusting to "luck" to get the bees thru any old way. As a matter of fact, altho we do not have the long cold northern winters to contend with, the problem of bringing the bees thru the winter months in the best condition, with the least loss of vitality, and with a moderate consumption of stores, is a serious one.

I may not be "orthodox," but I must admit that I am not an advocate of expensive and troublesome methods of packing bees, believing that in this climate (Arkansas, Tennessee, and the Carolinas) we can get good results without packing by giving attention to a few simple but important details which have to do with getting the bees in a proper condition for winter.

Here are four essentials for successful wintering, and they may be had with slight cost of time or labor. 1. A large force of young bees at the beginning of winter. With a young queen and a fall flow, this will be the natural condition of affairs; but

should there not be enough nectar coming in to keep up brood-rearing during September and October, then we should resort to slow feeding in order to stimulate the rearing of brood. Diluted honey or thin sugar syrup should be used, and a little given each colony every day or two for a month.

2. Plenty of good stores. This means twenty-five or thirty pounds of sealed honey or syrup (not honey-dew) in the combs of each colony; and if there is more it will not be wasted. In case you have to feed for stores it is best to give the required amount at one or two feedings, and this should be done before very cold weather sets in. A caution to beginners just here—always feed late in the afternoon, and be careful not to start the bees to robbing.

3. A good tight hive, preferably two stories, as this gives plenty of room for stores, and clustering space in the warmest part of the hive. This also provides plenty of breeding room in the spring, which a one-story hive does not. There should be a good cover to keep off the rain, and a double one with an air-space is best.

4. Protection from the cold north and west winds. This may be afforded by build-



One of J. M. Buchanan's out-apiaries ready for winter, each colony being in a two-story hive.

FROM THE FIELD OF EXPERIENCE

ings, a tight fence or wall, shrubbery, such as evergreens, or a hill or bank of earth. Cold winds are more harmful to bees than much colder still air; and colonies in the open, or in exposed positions, will suffer even with heavy packing.

Winter cases, chaff, or sawdust packing, tar-paper, etc., may help to some extent in the conservation of stores; but I am convinced that in this climate, with our open winters, where the bees can have a flight nearly every week, extensive and expensive packing will not pay in dollars and cents, and that is what counts with the honey-producer. With our long breeding season we can get the bees built up to rousing colonies in time for the surplus flow; and if they reach that stage too early they are likely to swarm. And for storing I had rather have a moderate-sized colony that has no inclination to swarm than a very large one that persists in going on a picnic in the middle of the honey-flow.

Statistics show the winter loss of bees to be very high in the South; but when we take into consideration the great number of careless or ignorant beekeepers, and their slipshod "let-alone" methods, we can see at once that it is due to starvation and neglect rather than to cold weather that the death-rate is high. Strictly speaking, these should not be counted as "winter loss" at all, since a large number of colonies swarm themselves to death, or starve out in the late summer or fall. Among the well-informed and careful beekeepers of the southern states the winter loss of bees will be found to be very low, perhaps one or two per cent being a fair average.

After all, the real "problem" is how to reach the class who will not read, or who, if they read, will not profit.

Franklin, Tenn. J. M. BUCHANAN.

Outwitting the Mice

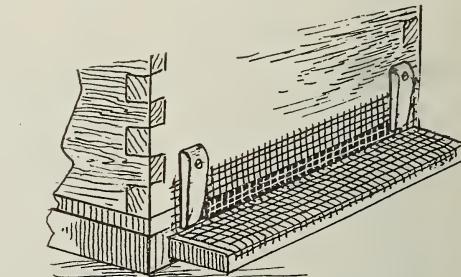
In spite of the fact that people have solemnly assured me every animal was created for some purpose, I have never yet heard any logical reason for the creation of mice—particularly the mice which do so much damage in the hives. Each fall, as soon as the farmers start to take the fodder from the cornfields, the trouble begins. Every mouse in the fields seems to think his chief duty in life is to make his home in one of the nearest hives. These mice are field mice or, as some people call them,

woods mice. To be sure, ordinary house mice will destroy colonies or empty combs kept in cellars of buildings; but out of doors it is the field mice which play havoc with the bees.

Two other important features about them are their strength and their almost human ingenuity in outwitting people who try to keep them out of beehives. I have repeatedly shoved entrance-blocks in place only to find, the following morning, that one end of the blocks was again pulled out about an inch. As the only kind of animal to which that size of space would be of value is mice, they must have worked at the blocks until they had them out.

These field mice, if they have the least opportunity, will make their nests in the hives. The nests, made of twigs, straw, or any other available material, are round hollow balls almost twice as large as a base ball. There are always two entrances opposite each other in the upper part of them. They are built where the comb is eaten away. If mice once get into a hive the colony is practically doomed. If the colony is not killed outright, there will be so few bees left that the beekeeper would be wasting his time to build it up again.

There is one convenient way of keeping these mice out of hives. It is by holding the wire entrance-guard securely in place with a couple of small wooden buttons fastened on the front of the hive. As short screws are used for fastening on the buttons, three or four turns of a screwdriver



will put them on or take them off. They can easily be taken off in the spring out of the way during the busy season and put on again in the fall. With these entrance-guards, if the beekeeper wishes to remove the dead bees from the bottom-board during a long cold spell he can, by shoving aside the buttons, take off the wire without disturbing the colony in the least. There is never any jolting or pounding.

Northeast, Md. RUTH C. GIFFORD.

THE crop of honey in western Vermont will not be as large as was expected early in August. The hot dry weather in the latter part of July had checked the flow to such an extent that the supers were very light.

BOTTOM PACKING NOT NECESSARY.

Mrs. Allen says, page 376, May, that Mr. Bartholomew, backed by Dr. Phillips, "maintains that unless all four sides, top, and bottom, are packed, no good is gained."

I have about 200 hives packed on the bottom as well as sides and top, but have been unable to discover that bees wintered any better in them than when packed on four sides and on top, and have discontinued bottom packing.

We have, however, noticed a great difference between colonies in single-walled hives and those in double-walled hives in the time it takes them to build up in the spring. Double-walled hives are of quite as great value in such a cold spring as the last in building up colonies as in wintering them.

Mr. Doolittle gives good advice on page 440, June, in regard to getting bees to work in sections, but, unfortunately, we do not have more than one year in twenty-five when bees can be induced to start combs in sections in August or September; besides, we have very few sections made up at that season. A better way, to my mind, to start those colonies that are a little slow in getting to work in sections is to take a well-started super from some other colony and give or exchange with the slow colony. If honey is coming in freely it is not necessary to get the bees all out before the change is made.

That picture of a brood-comb, page 539, July, seems a marvelous production, showing how perfect photographers have become. We can see by the color the different ages of the sealed and very perfectly the unsealed larva from two to five days old and even eggs in the base of the cells, and in others the reflections of the light that we sometimes mistake for eggs.

E. G. Baldwin, in Florida Sunshine, page 705, becomes enthusiastic over the advance in the price of honey. He says, "Honey,

for once, has advanced nearly apiece with other similar commodities, and prices are now stiffer than ever before in the history of the industry."

Beg your pardon, Professor B., but we used to get 30 cts. a pound or more for comb honey at wholesale, forty or fifty years ago, and 25 cts. for extracted; but it was a long time ago, and I guess you have forgotten. About 1880 prices began to tumble until it seemed as tho we should have to go out of the business, but we are still at it.

James A. Brown gives interesting facts about the value of honey as an article of food. More and more we are learning the fact that honey is not only as cheap as other articles of food but at the same time is a delicious sauce. Many persons refrain from buying honey because they think it of little value as food. More persons will buy when they learn that it is just as economical to buy honey and pay 20 cts. a pound as to pay the present prie of 48 cents for butter.

Some years ago it was the fashion to speak of the superior value of sugar as a winter food for bees; but of late it is the other way; honey, we are told, is better. Well, perhaps; but we get along very well by supplying any lack of winter stores with sugar syrup. Pollen is rich in protein and other elements necessary for the production of brood; and when we have a supply of pollen we do not worry.

Beginners' Lessons, page 699, September, contains some lessons older beekeepers might take to heart, especially in regard to nailing up cases of tinned honey and preparing barrels for honey. It seems queer that soaking the barrels with water only increases the danger of leakage, but it is a fact.

Many bee-inspectors can appreciate the inspector's embarrassment when threatened with a shotgun, as told by a beekeeper's wife, page 604, August; but after all I prefer that to the stolid indifference of many beekeepers.

We learn from page 697 that John M. Davis presented Mrs. Allen a queen and received in return neither gold nor silver, but a gem we may all enjoy.

A BEE that appears worker with clearly the abdomen of a drone has been sent me by The Stover Apiaries, the third one of the kind found there this year. I've read of such freaks, but this is the first one I ever saw. [Numerous specimens of these hermaphrodite bees have been sent us from time to time. Sometimes we find a worker's body with drone head, and at other times a drone body with a worker head. Sometimes the eyes of the drones are bright purple, a light pink, or red; but these would not be true hermaphrodite bees but merely sports.—ED.]

YE EDITOR, p. 709, advises, in uniting colonies at some distance apart in the same yard, to leave on the vacated stand a comb and empty hive to catch the returning field-bees, and to return these once or twice. Why does he say nothing about the easier and better way, the newspaper plan? Is it because that plan is my baby, and he has a spite against me, or doesn't the plan work at Medina? When the bees are imprisoned over the newspaper, and at first unite one by one, there is not only the advantage that there is no fighting (sometimes there is fighting when they are directly united), but the imprisonment has the effect of inducing them to remain in their new place. [The advice we gave on page 709 referred particularly to the beginner. There is some danger of uniting on the newspaper plan, for the reason that the novice might inadvertently select a hot day to do the work. The result would be melted-down combs and suffocated bees. While this is not likely to happen at the time the bees should be united, it is always a possibility. Your plan is all right so far as we know. We have been testing it out this fall particularly, and so far it is giving excellent results. There is a slight returning, but not nearly to the extent that there is with other methods.—ED.]

THIS was, I think, about the worst year I ever knew. The main harvest has been 12 pounds per colony. To be sure, in the past there were years in which I got absolutely nothing, and had to feed for winter; but if I had one of those years over again, with my present bees and knowledge, I think I could beat 12 pounds. I'm hoping for a fall flow. [A few years ago you broke the record in big yields per colony in the production of comb honey. You

STRAY STRAWS

Dr. C. C. Miller

have had a reputation of doing well with your bees other years. Your light yield this year with extracted may be a sort of satisfaction to the other fellows who have had almost a failure, and who might be inclined to charge their failures to inexperience. But when one of the old Gamaliels, and a man who has broken the record in comb-honey production, falls down, some perhaps will be glad of it, as it will prove that even a good man cannot make bricks without straw, or, more exactly, produce a crop of honey without nectar in the fields. On the principle that misery loves company, there will be a lot more who will love your company.—ED.]

S. E. MILLER, p. 714, tells of his tribulations with honey candied in the tank, in order "to draw out the *modus operandi* of some fellow who knows a better way." May be he would think my way a better one, and that is not to allow the honey to candy in the tank. I'm only a beginner at extracting honey—been at it only two or three years—and I feel sure I'm not well up on it; but one thing I've never had any trouble with, and never expect to, and that is melting candied honey that is intended for sale. On top of the honey-tank is a strainer *a la* E. D. Townsend, and the honey goes directly from the extractor to the tank without the nuisance of using the strainer that comes with the extractor. Then when the honey has settled in the tank, it is drawn directly into five-pound pails, where it can stay liquid as long as it likes or candy at once, just as it pleases. It's all one to me. The label on the pail says: "The honey will candy during cold weather. To liquefy candied honey put the pail in hot water. Do not let the water boil." Having put on that label, my responsibility ends. The consumer can melt it or eat it candied. And I've never heard a word of fault.

"THE BEES of the hive in question never rob from their own hive by entering above," p. 698. That's new to me, yet I never knew anything to the contrary. Still, I can't help wondering, if no other colony was within reach, and an escape was put under the supers in a time of dearth, how long the honey would remain undisturbed in those supers. [Miss Fowles reports that they have put unfinished sections above an inner cover containing a small hole, and that the bees carry it down. That is easy

to understand, and your last proposition is very much like it. I shall have to confess that I put the parenthesis in afterward, forgetting that I was talking about the use of the bee-escape, separating the supers from the brood-chamber below. I agree that in all probability the bees under such circumstances might soon rob their own honey and store it in the brood-combs.—H. H. R.]

P. C. CHADWICK says, p. 700, that beet sugar is now refined so that there is no chemical difference between it and cane sugar. I think that has been the case for years, yet is it not possible there may be no difference *chemically*, and yet a difference? Is there any chemical difference between diamonds and charcoal? At any rate the *British Bee Journal* stoutly insists that the difference between beet and cane sugar is such that beet sugar should never be fed to bees. For all that, I suppose tons of beet sugar have been fed to bees with no bad results apparent. [Chemically the two sugars are one and the same, and practically we have never been able to detect any difference. We have heard that some housewives prefer cane sugar for canning. But how are they or any one else to know whether it is cane or beet unless they buy from a beet-sugar refinery in the locality? In this case the sugar would be, unquestionably, beet.—Ed.]

L. E. WEBB has sent me a section of "real mountain sourwood honey." It is pronounced "good" to "delicious" by those who have sampled it; but the thing especially interesting is that he says, "I averaged over 75 lbs. per colony of pure sourwood, getting 25 cts. per section or bulk on our local market without even delivering it." [We have tested this same sourwood honey. It is one of the finest honeys we have ever eaten. Indeed, we see no reason why it should not rank right alongside of orange-blossom, white-clover, basswood, mountain-sage, alfalfa, and other fine table honeys. It not only has a very mild and fine flavor, but a sort of tartness that gives it a sort of lemonade suggestion. We are not at all surprised that it should bring 25 cents a pound at retail.—Ed.]

WESLEY FOSTER says, page 707, that "Honey is used much more in cooking in Europe than has been the case in this country," and that consumers pay more for it there than here. It might be worth while to go to some trouble to find out why this is so. If Europeans use it in spite of the high price, would they not use it more if the price were the same as in this country? If so, one would naturally suppose it would

be used more for cooking here than in Europe. But it isn't. Now why? Who will tell us? [Perhaps some of our subscribers born and reared in Europe could give us the "why" propounded by Dr. Miller. However, when honey is relatively cheap, and sugar high, the great baking concerns of the country have used almost shiploads of honey. At the present time the ratio of difference is such that these same concerns will use invert sugar in place of honey.—Ed.]

AMONG the bad things of the war are some good ones. Thousands—possibly millions—of young men are today reading the Bible who would not have been doing so but for the war, and the demand for Bibles is without precedent. An item in a Chicago daily says:

The American Bible Society's presses have been running sixteen hours a day since May 1, and about 400,000 Bibles have been printed, but it is still far behind its orders, one of which is for 1,000,000 Bibles for the Y. M. C. A. for use in the army.

C. L. HILL tells about grocers that paid $\frac{1}{2}$ cent for beets which they sold for 8 cents, and wanted 50 per cent on honey, p. 594. Please don't judge all grocers by them. Marengo grocers are nice people. I generally set the price they pay me, and also the price they sell at, and they are satisfied with about 25 per cent profit. I'm trying to sell all I can to them.

FEEDING for winter half sugar and half water is advised against, p. 711, because the hard work of reducing would exhaust too much the vitality of the bees. Another reason is that, if fed very late, the bees would not be able at all to reduce the mixture to the proper density. If fed early enough, half and half would be all right; but no doubt late feeding was in mind.

"WE PUT sheltered location first, and winter packing second; but both, for outdoor wintering, are essential." So says Editor Root, p. 711, and it can hardly be emphasized too much. Protection immediately touching the hive is needed; but what counts most is the protection two feet or ten feet from the hive; and possibly more important is the protection many rods away.

"COVER the jelly when cold with melted paraffin, tipping the glass so that it comes up a little on the side," p. 695. I've read of an easier way: Put a lump of paraffin in the glass, and pour upon it the hot jelly. Perhaps Mrs. Puerden will tell us whether this will work as well.

BETWEEN 100 and 200 tons of dark honey in San Francisco alone is used in making sweet crackers or cookies, according to a correspondent in *The Western Honey Bee*.

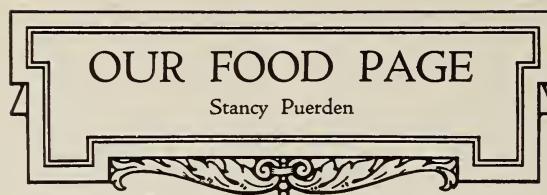
TH E last week of August the editors of GLEANINGS delighted my heart by suggesting that I go to Chicago to hear

Herbert Hoover talk to editors and publishers of farm journals. It didn't take me long to decide that the garden, the canning, the corn-drying, and even the children could get along without me for a day or two.

There were one hundred and twenty-six farm journals represented at the meeting, from twenty-four states, and the purpose of the conference was to develop a closer working relation between the Food Administration and the farm press. It was the first time Mr. Hoover had left Washington to make an address since he came to this country to take charge of the Food Administration work. He came in quietly, just at the hour set, and, after shaking hands with the representatives of the various papers, began his talk. He stood leaning slightly forward with the tips of his fingers touching a table on which were his notes, and spoke in a low voice, choosing his words with great care. He is a modest-appearing man, and one had the feeling that he was most anxious not to be misquoted. When he is looking down he looks incredibly young to have had the responsibility of the greatest organized charity the world has ever known, for two years; but when he raises his eyes they look tired and very serious, and the man seems years older.

In this limited space I can touch on only a few of the points he made. He told us food problems would have arisen whether our country had entered the war or not, and that they are really easier of solution now, as we can summon patriotism and devotion to our aid.

He dwelt at length on the great need of stimulation of production and reduction of consumption and waste. He said, "Unless we can keep the women and children of our Allies fed, the western line of the war will surely be thrown to our Atlantic Seaboard, and it may be thrown to an infinitely more dangerous quarter in the ransom of Canada as penalty of England's defeat." He told us that, in spite of promises of an abundant harvest in the United States, our supplies are going to be far below our combined necessities. Our exports to our Allies this year must be mainly wheat, meat, especially pork, and dairy products. We must learn to use substitutes from our abundance of other products ourselves in



order to export these concentrated foods.

He talked in a most interesting way of the purpose of the Food Administration to keep

prices reasonable, and on the other hand see that the producer gets a fair profit. It is also their object to eliminate speculation in food, and he told us of many plans with this in view. One thing he said which I have not since seen in any published report of his speech, and it was something like this: "We are trying to equalize the burden of this great war so that it will not fall harder on one class than another."

He believes that even if the war had not come we were due in a few years for an economic revolution, for our productive capacity in food stuffs has fallen behind our productive capacity in industry. To quote him again, "If I interpret the signs correctly, the farmer is coming into his day, and it is the duty of all of us to support him."

At the close he said, "*I resent the statement that the Food Administration is dictatorship. I have seen the suffering of ten million people under the wrongs of dictatorship. Food administration as much as any other function of democracy must be founded on the consent and good will of the governed.*"

And now, Mr. Beekeeper, will you let me say just a word to you? In the course of Mr. Hoover's talk he told us about the great shortage of ships, and that it is affecting our imports as well as our exports. That is one of the reasons for the sugar shortage, and here is where the bees will arise to the occasion if the beekeeper will do his part. I have often heard Mr. A. I. Root tell about the first barrel of honey he produced, and how people could hardly credit the statement that he had such an enormous amount of honey. I can remember when the first carloads of honey were brought east from California. Until very recently no one beekeeper in the East produced honey by the carload, but now there are a number in the white-clover belt who are selling honey by the carload from their own apiaries. And I for one have faith to believe that the industry of beekeeping is just in its infancy. The time may come when honey, the oldest sweet mentioned in history, will be used as freely as sugar. Here is a subject which I should like to see discussed in GLEANINGS the coming year. "How much nectar annually goes to waste in our country?"

Yes, Mr. Editor, I am going to address the rest of my advice to the lady readers, but you cannot deny that some nice men read this page. One man wrote he had canned sixty quarts of raspberries by the method I gave for small fruits in the July number. He said he was a bachelor, and I could not help regretting that such good husband material is being wasted.

Below I am giving a recipe for honey tomato preserves, followed by a number of cornmeal recipes. I find it easier to work in such dishes nearly every day rather than have one wheatless day a week, and the same result is accomplished. The frequent use of cornmeal is no hardship whatever to the Puerden family.

HONEY TOMATO PRESERVES

1 qt. tomatoes peeled and cut small,	$\frac{1}{4}$ lemon shaved thin, $\frac{1}{2}$ oz. ginger root.
3 cups extracted honey,	

Cook the tomatoes about thirty minutes in their own juice, and then add the honey, lemon, and ginger, and cook until it will drip from the spoon in two or more drops. Pour into sterilized jelly-glasses and cover with melted paraffin when cold. Cinnamon bark or cloves may be substituted for the ginger root if preferred.

When I was a small girl I had an uncle who knew how to make most delicious hoe cake. He had learned it from an older brother who was a prisoner in the South during the Civil War. In working over this page late one evening I was suddenly seized with a desire to try hoe cake, and I worked out the recipe given below. I had seen my uncle do it; but as he had never measured anything I had to experiment a little. You ought to have seen my diet squad, the Puerden boys and their dad, sit up and take notice when I brought in the plate of crisp, crusty hoe cakes. The fragrance alone was a treat. They ate them split and buttered; and when I asked for criticisms they said feelingly and unanimously, "Double the recipe next time."

HOE CAKE

1 cup cornmeal,	1 teaspoon salt.
3 cups boiling water,	

Pour the boiling water slowly over the cornmeal and salt, stirring constantly, and then put over the fire and cook until it thickens and boils up well. Have gem-irons sizzling hot and put a large spoonful of the mush in each one. Bake in a very hot oven until brown and crisp. A griddle or iron frying-pan may be used instead of the gem-irons.

POLENTA

$\frac{3}{4}$ cup cornmeal,	$\frac{3}{4}$ teaspoon salt,
3 cups boiling water,	$\frac{1}{4}$ cup cheese.

Sift cornmeal slowly into boiling salted water, stirring constantly to prevent lumping. Cook in double boiler three hours or more. Add cheese grated or cut small, pour into a well-greased pan, slice when cold and fry like mush.

SPOON BREAD

3 cups milk,	2 eggs,
$\frac{1}{2}$ cup cornmeal,	$\frac{1}{2}$ teaspoon salt.

Heat milk in double boiler. When boiling hot stir in cornmeal and salt, and cook to a smooth mush that will pour rather than drop from the spoon. Take from the fire and add the slightly beaten yolks of the eggs, stirring constantly. Then fold in the beaten whites of the eggs and bake in a moderate oven half an hour. Serve from baking-dish with a spoon. Butter and honey should be served with it. Any dried fruit may be added to the spoon bread.

We have been enjoying whole-wheat flour which we have ground ourselves in a hand gristmill. We are planning later to grind some of our own home-raised field corn, and thus have the delicious taste of the germ which is removed from the commercial cornmeal. These little gristmills can be obtained for \$2.50 up. Here is a recipe for war bread as made in the Puerden home. I usually use about half home-ground whole-wheat flour, but the proportion can be varied to suit individual taste. All white flour may be used instead of the rye. As flour varies much in thickening power you may need to increase or decrease the amount somewhat. Lighter bread will result if you remove the coarse bran by sifting. The bran may be used later in the muffin recipe given below.

WAR BREAD

1 cake dry yeast	3 pints boiling potato water
1 cup warm water	2 quarts white flour
3 tablespoons flour	1 quart rye flour
2 tablespoons honey	3 quarts whole-wheat flour
1 tablespoon salt	

At 5 P. M. put yeast cake to soak in cup lukewarm water. Scald the three T. flour, 2 T. honey, and 1 T. salt with 3 pints boiling water drained from potatoes. When cooled until lukewarm add the yeast soaked in the cup of water and the white flour. Beat until it is a smooth batter; cover and set aside in a warm place until nine or ten o'clock, when the sponge should be porous and foamy. Now sift in the rye and whole-wheat flour. Turn the mixer three to five minutes, until a dough is formed; cover, and leave until morning. The temperature of the room should be about 70 degrees. In the morning divide into four loaves; let rise until doubled in bulk and bake.

BRAN MUFFINS

1 egg	1 teaspoon soda
2 cups sour milk	1 teaspoon baking powder
2½ cups flour	$\frac{1}{2}$ teaspoon salt
1½ cups bran	1 tablespoon melted shortening

Beat egg well and add sour milk. Mix soda, baking-powder, and salt with flour and sift into egg-and-milk mixture. Add bran and melted shortening and beat well. Bake in quick oven.

The above recipes have been submitted to the Food Administration and have received their approval.

DO you love definitions and derivations? and do you like to think about how words came to be, as they slowly answered to

the need of expression of some persistent idea? Take the word "amateur." Define it, and you get, following one eminent lexicographer, "one versed in, or a lover of, any particular pursuit, art, or science, but not engaged in it professionally."

Visualize its history and growth, and you see back into a misty long ago, when men first began to linger over their work with a passion for perfection. Gradually their number grew, and they were called lovers, work-lovers. Out of the Latin into the French, and on down the years into our own sturdy speech, the beautiful word came, and men who worked at a thing for the love of it instead of the profit in it were called amateurs—lovers.

But of late years this word has often fallen from its original high estate, and now it brings to many minds only the picture of a beginner, or a bungler, instead of a lover, or one well versed and skillful. That is a great pity, but it cannot be the word's fault. Is it that men today are less faithful lovers of work or art or science than in the old days when the word was born of so great a need? Are the avocations and side lines of today chosen and followed for the sake of the

extra money they may yield instead of the satisfaction of soul they may bring? I know a woman of great wealth who has a well-

lighted, practical little workshop on the third floor of her home. There she often spends hours at a time, with patient, skillful hands shaping precious but formless stones and metals into things of beauty. She is an amateur.

It comes to me this month that we sideline beekeepers have an avocation which might well make amateurs of us all if we will let it, for it touches so many things human hearts naturally love—swift wings and flowers and sunlit days, science, mystery, unanswered questions, and a limitless challenge for understanding and study and skill. Our skill may add profit to our pleasure, yet we will be amateurs still, so long as we love the work and are not engaged in it professionally.

If it should happen by accident that some one not a beekeeper at all should be reading this, he would not find me for one moment trying to persuade him to be one, because he would know much better than I what avocation he could love and become versed in. You see if you don't love it, you are apt not to become versed in it; and unless you become well versed in beekeeping, you will not make a good beekeeper. And these un-good beekeepers are a drag.



Side Line apiary owned by Sam Y. Jones, Hodgenville, Ky. Mr. Jones is an attorney, and he says he sees no reason why any professional man could not keep a few bees on his back lot without interference with his other business.

So what I am especially urging this month is study, improvement, skill. I don't care how good a beekeeper you are, nor how poor, you can be a better one. If there is any one at all who ought to keep bees right, it is we who have small yards, and who, for the most part anyway, keep bees partly for pleasure. We are the amateurs of the industry, the lovers of it. Let us live up to our name. And let us measure up to the first part of the definition as well as to the last.

Skill in this work can be attained by three methods, and no one of the three alone will suffice. We must read about bees, we must observe bees, we must work with bees. Read, observe, work — these three; but the greatest of these is work. No progressive man would ever neglect any one of them; no amateur could.

If you have an unoccupied hour one of these wonder days of autumn, go out and watch the bees at the entrances. Are they bringing in pollen? Are young bees playing? Are there many spread out over the alighting-board? What are they doing? Why? You may find, or you might have found a little earlier, as I did last June and this August, the bees of certain colonies tugging and pulling at one another, hopping around or climbing spears of grass. You will remember having read about the Isle of Wight disease, paralysis, the disappearing disease, and you will promptly begin reading more and observing more. Imagine your chagrin if Miss Iona Fowles should come looking over your yard and find your colonies affected, when you hadn't noticed it yourself! Or pick up a few bees and release them at arm's length in front of the hive. Do they fly, or drop to the ground? I picked up fifty-five in succession from one hive the other day, and less than ten of them flew. The others dropped, or fluttered, to the grass. Why? (That is not a rhetorical question. I don't know, but I wish I did.) In the middle of the night it occurred to me to wonder if they might be starving, tho I couldn't think why they should be. However, the next morning I went out in the rain with a bucket of honey to administer first aid; but as they had a reasonable amount of honey on hand, they didn't need it.

Then, no matter where you live, you will have to winter your bees. If you are just a beginner-amateur you will doubtless follow the custom of your neighbors. But you will find a world of printed testimony and instruction on the subject, and can put in some profitable hours studying the matter. Will it be better to winter outside,

or in a cellar? If the latter, have you a cellar of the proper temperature and ventilation? If outside, will it be wiser to leave them as they are or pack them in winter cases? If in cases, how will you make them, or where buy them? And how about stores? And queens?

Surely it is very much worth while to study, observe, and work; study, observe, and work; for if you are ambitious these things will bring you success. If you are



A "Yard" of Bees.—Photographed by E. M. Eshelman, Takoma Park, D. C.

a true amateur they will bring you the skill you so deeply desire.

"Don't extract the last drop and then feed sugar," page 693. And, what is equally important advice to some beekeepers, "Don't extract the last drop and then fail to feed sugar."

SURE ENOUGH AMATEURS
The lady who rendered the solo
Loves music thru and thru,
And I who rendered the beeswax
Am stuck on my job too!

POSSIBLY some who expect to be beginners in beekeeping may wonder why I do not devote one lesson at least to the question of selling. This I do not consider necessary, for every beginner worthy of the name is enthusiastic. He reads bees, thinks bees, and—talk bees. It is this contagious enthusiasm that sells honey, and every beginner, without really being conscious of it, is really creating a market that will take more honey than he can produce for several years. The least of his worries is getting rid of his crop; what concerns him the most is in producing enough honey to supply the demand right at his own door. There are, however, a few "don'ts" that should be observed by every amateur honey salesman.

Don't sell your honey for less than the market price. Give it away to your friends if you want to, but don't hurt some other fellow's business by selling honey to any one for less than it is worth.

Don't sell to a grocer and then turn around and retail from house to house to the grocer's own customers, or at less than the grocer's price.

Don't peddle honey in a town without first finding out whether you can do so without a license.

Don't spend \$5.00 in advertising when you have only a hundred pounds of honey to sell.

Don't sell honey that has a scum on the top. You may know that the scum is made up of bubbles of air, but it looks bad.

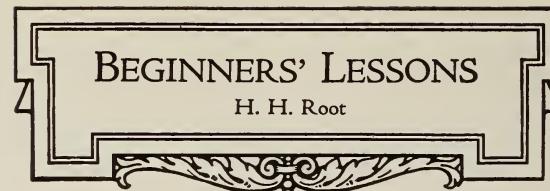
Don't ship your honey away if you can sell it locally at a much better price.

Don't sell honey locally if you can ship it at a much better price.

SUPPLYING WINTER STORES.

Most of the experienced and successful beekeepers unite in saying that supplying an abundance of good stores is by far the most important requisite for successful wintering. In a few localities that have no fall honey flow to keep up brood-rearing, feeding must be done in September to insure a good strong force of vigorous young bees before the cold weather comes on. A bushel of old worn-out bees would not come out a strong colony in the spring, no matter how favorable other conditions might be.

Early in October every colony should be looked over carefully to make sure there are enough stores. Paying no more attention



to a colony after the first of September is rarely safe. Thirty-five to 40 lbs. of honey in the combs for strong colonies is none too much. Several years ago I was making an experiment in feeding back extracted honey to get some unfinished sections filled out and completed. Eight different colonies scattered about in one of our outyards were fed every day all the thinned honey that they would store. They finished up considerable comb honey and of course stored their brood-combs solid. The next spring our apiarist reported that there were some half dozen colonies that had gone away ahead of any of the others in the yard, and he suggested that it must be due to the queens. It turned out that these extra-strong colonies were the ones that had been fed so lavishly the fall before.

There have been scores of patents issued to beekeepers for various complicated feeders; in fact, several thousand dollars have been wasted in obtaining patents along this line. In the March 1st issue of GLEANINGS for 1915, J. L. Byer described on page 194 his plan of feeding, making use of five or ten pound friction-top pails, the lids being punched full of holes. I do not know whether the idea originated with Mr. Byer, but certain it is that this simple, inexpensive method of supplying winter stores has become very popular. The lids are punched full of 1-16th holes or finer from the inside so that the inner surface of the lid is smooth. These cans when filled with thick syrup (at least two parts of sugar to one of water) are turned upside down either directly over the top-bars of the brood-frames or over the hole in the escape-board or inner cover. If the lid fits tightly the syrup can not run out except as the bees take it, and be sure the lid does fit tight.

The pails themselves cost nothing, as they may be used later for shipping honey, the lids only being kept over from year to year. These extra lids are inexpensive, and take but a very small amount of room when they are stored away. Friction-top pails are being used more and more for honey. They are easy to fill, easy to handle, and the consumer after he empties the honey out has a pail that he can use. Best of all, no extra equipment is necessary for feeding. Many beekeepers succeed in producing honey in paying quantities and



The 5 and 10 pound friction-top pails that are used so largely make the simplest and best kind of feeders for supplying winter stores. Punch the lid full of very fine holes, fill with syrup, about two parts of sugar to one of water (warm if weather is cool), and crowd the lid down tightly.

then fail because they spend too much in useless equipment.

The syrup may be mixed at home and carried to the yard right in the pail used for feeding, or, if water is handy in the yard, the empty pails and the dry sugar may be taken and mixed right at the yard in an ordinary extractor.

It is beyond the province of these Lessons to discuss the comparative merits of sugar syrup and honey for winter stores. Because of the salts of iron, magnesia, etc.,

contained in honey there is no question but that honey is the best food for bees as well as for human beings. Furthermore, in most instances it is foolish to extract honey nicely sealed in the combs and then be obliged to feed syrup to take its place, for the difference in price of the two hardly compensates for the extra labor. Nevertheless we must not forget that many successful beekeepers feed syrup year after year and with the very best of results.

Details of winter packing in next lesson.



Invert the pail over the hole in the escape-board directly above the cluster in the brood-chamber. There is plenty of space to permit the bees to work over the whole surface of the lid.



Or, dispense with the escape-board altogether and put the pail directly on the top-bars of the brood-frames. Cover all around with an old sack. The syrup cannot run out any faster than the bees take it.

GLEANINGS FROM THE NORTH, SOUTH, EAST, AND WEST

TH E e x -
tremely hot
s u m m e r ,
with nearly an

IN CALIFORNIA

P. C. Chadwick, Redlands, Cal.

entire lack of nectar in the sage districts, has made requeening almost out of the question. Most of my colonies have not been requeened, and there is little hope for requeening this fall, as conditions are about as bad for the work as could be imagined.

* * *

Comb-honey production is becoming less and less attractive as people become acquainted with the extracted. Personally I prefer the comb for my individual use; but I have a daughter who says she does not see any use "in chewing all that wax" and I guess she is about correct.

* * *

If the thoro drying-out of the sage is favorable for a future heavy flow of honey, we should have no fears on that line, for the hot weather of the past three months has given it a thoro drying without a doubt. The best flow I ever saw followed a season of extreme dryness, with little rain the previous winter.

* * *

The twelve-frame hive would be ideal for those beekeepers who are prone to extract too closely, from the fact that they come very much nearer to supplying winter needs by the extra size of the brood-chamber when the surplus chamber has been heavily drawn upon. This size of hive has many advantages any way; and were it not that they are so cumbersome to handle I should prefer them to the ten-frame size.

* * *

Some very disastrous grain and brush fires have recently occurred. Incendiary origin is given as the cause of at least a part of them. There is a class of people who believe they can best protest against war activities by destroying food materials. Such persons should be summarily dealt with. The fact that these very persons when caught are the first to claim protection of the laws they violate, leaves them but little sympathy from the public. A vast amount of damage has already been done to the pasturage by these fires, and it would almost seem advisable for the beekeepers to take some united action in bringing guilty parties to justice.

* * *

A shell fired from a gun will not travel so far in air heavily charged with moisture as in air containing very little

moisture, which is due to the greater resistance of the heavier air. It is possible this same influence may have something to do with the distance bees will fly in different localities. It is well known that the air on the coast and mountain arid regions is much lighter than that of the East. If it is true that bees fly further here than in the East, the lighter air may be the reason.

* * *

A colony of bees may be compared to an animal. When the animal is sleek and fat it is a comparatively easy task to keep it so with proper feeding. A colony once in a prosperous condition is more easily kept so by providing an abundance of stores to meet all requirements without skimping. I speak of this thinking especially of conditions that prevail in the sage districts where there is comparative inactivity during the summer months, and often until the following spring. I am satisfied that a large hive well filled with honey is in itself a factor in keeping up the strength of the colony. It requires more bees to protect a large hive and greater stores than it does a smaller hive with no stores to protect. Besides, a hive of larger proportions will allow comfort for a greater force of bees than a single section would for the same amount of bees. If the beekeeper wishes to prove this theory, take two colonies of equal strength at the close of the honey-flow. From one of these remove all supers, leaving only the brood-chamber for the colony. Give the other the brood-chamber and two extracting-supers well supplied with stores, much of which should be sealed. Honey sufficient for immediate requirements is not enough. Additional stores and extra bees to protect them are an incentive to heavier breeding. The condition of a queen may, of course, alter the situation to some extent; but I am supposing the colonies are in normal condition. My bees have gathered less than their requirements since the first of July, yet my strong colonies on which was left a large amount of stores are still prosperous. Those with less room and less stores have assumed a condition in proportion to the amount of bees required for the hive protection and no more. I conclude that the amount of stores available, together with the amount of bees required to protect such stores, furnishes the only incentive for breeding in the total absence of nectar.

A VERY important measure was adopted at

the meeting of the State Beekeepers' Association held last August. A resolution was presented and adopted by the meeting to affiliate the Texas Beekeepers' Association with the Texas Honey Producers' Association. As the matter now stands, the Texas Beekeepers' Association of the past is the Educational Section of the Texas Honey Producers' Association, now affiliated with the Texas Farmers' Congress. Under this plan the Honey Producers' Association becomes the business section of the new association. The arguments presented in favor of this new affiliation were that, since the membership of the two associations was now almost identical, that since the honey-producers would have a program at Farmers' Congress next year, that since the two associations were now working for a common good, the improvement of the industry in the state, it would only be wise to unite and work as one association.

* * *

From a state-wide view point the honey and apiary conditions have improved during the past month. In several localities much needed rains have fallen, and in one locality too much rain is reported. Over the southwest section the drouth still prevails.

In the lower Rio Grande Valley the condition of the bees is above normal. Several of the fall honey-producing plants have come into bloom, and considerable honey is now coming in. The prospects for a fall crop of white honey are good. But little honey has been offered for sale, and this entirely for local trade. The price for extracted honey is 15 cents per pound.

In south Texas the condition of the bees is far below normal, but there is an improvement since the last report. The bees have plenty of honey in the brood-nest, and a small amount of surplus. None of this honey in the super will be taken, as it will be needed for the bees to build up on next spring. If good rains occur later there may be a fall flow of honey from white brush. No honey is offered for sale in this section.

In the southern part of the southwest section the condition of the bees is almost normal. The bees have filled the brood-chambers and have stored some surplus—in some localities enough to take off some for market. The source of this honey is cotton and mesquite. If there should be any fall flow of honey the bees will be in excellent

IN TEXAS

F. B. Paddock, State Entomologist

condition to gather it. No honey has been offered for sale.

and undoubtedly but little will be put on the market later. In the western part of this section of the state the condition of the bees is not over 40 per cent normal. Thruout the entire area there are no prospects for a fall flow of honey. Naturally no honey has been offered for sale in this locality.

In west-central Texas the condition of the bees is not more than 40 per cent normal. A short cotton flow is expected to yield enough honey to keep the bees from starving.

In the irrigated alfalfa areas of the extreme western section of the state the bees have done unusually well this season. Already large quantities of extracted honey have been taken, and only about three-fifths of the crop is harvested. Local prices for extracted honey prevail at 15 cents per pound.

In the eastern section the condition of the bees is normal, and prospects for a fall flow of honey are fair. Some honey has already been offered for sale on the local market at 15 cents per pound for extracted and 20 cents for bulk comb.

In central Texas the bees are only about 25 per cent normal. Unless fall rains occur there are no prospects for a fall flow of honey, which means that the bees will not even have the brood-chambers full of honey to go into the winter with. There has been no local honey offered for sale.

Conditions are somewhat better in north-central Texas, altho the bees have not fully recovered from the early summer drouth. Extracting is under way. But little honey has yet been offered for sale, the price being 15 cents per pound for extracted.

In northeastern Texas the bees are in excellent condition, and there are good prospects for a fall flow of honey. Extracting has just started. Extracted honey is selling in the local market for 15 cents per pound, altho but little has yet been offered.

* * *

The usual appeal is being made by Mr. T. P. Robinson, of Bartlett, the Superintendent of the Apiary Exhibit, for the beekeepers of the state to send exhibits to the Dallas State Fair. Mr. Robinson tells of the increased interest by visitors of the fair in the aparian exhibit. He says the educational value of these exhibits is not fully realized by many beekeepers of the state. Too many are satisfied with a local demand for their honey crop at a figure far too

low, when by united effort in getting the matter before the public the price could be raised to where it should be. Considering the price and food value, honey is today the cheapest food that can be purchased. It must be remembered that honey is not a luxury, to be indulged in as candy, but it is a necessary article of staple food. This year arrangements have been made with the Secretary of the Cotton Palace, held at Waco, to have an exhibit there. A premium list is prepared which should prove attractive to any beekeeper. The Cotton Palace is held after the Dallas State Fair, and many exhibitors prefer to show at both places.

The problem of combs melting down in the hives has been one of much concern to many beekeepers during the past summer. It is generally agreed that the past season has not been so much hotter than normal, and most of the beekeepers have come to the conclusion that the excessive melting

down of combs in the hive was due to a much reduced colony. Those who reduced their colonies materially for the pound-package trade seem to feel that the combs melted down most in the weakest colonies. Some beekeepers who made a success of pound-package shipments doubted if they made money when the loss of the combs in the hive was taken into consideration. The matter of ventilating the hive is a simple one, altho different beekeepers vary the details of the process. Small blocks sawed from the common one-inch lumber serve very well for the purpose. These may be placed under the brood-chamber, under the super, or under the cover, in either case on the front side.

Mr. H. D. Murry has moved his bees from Mathis to Roxton, Texas. Mr. Murry believes that his new location will be more favorable for his queen-rearing business as well as for honey production.



As intimated in my last Notes, buckwheat at that

NOTES FROM CANADA

J. L. Byer, Markham, Ont.

time gave great promise of a good yield of honey, as the acreage was larger than usual, and the stand was in excellent condition. It started out well early in August, and for a while it looked like a good crop for the beekeeper, when suddenly the weather turned cool and remained that way right up till now, when last night, Sept. 10, we had a killing frost—quite a heavy one indeed for this date. Much of the later buckwheat will be injured so far as grain yield is concerned; but as no honey has come in for over two weeks it makes little difference to the bees.

However, there is a nice surplus on the hives, and the feeding problem will be simplified, which is worth something in a year like this with the high price of sugar at present. Just now the problem is, how are we going to get the buckwheat honey off the hives? The weather is so cool that the bees are stupid on the combs; and, even if combs were cleared of bees, the honey is as thick as taffy. With five apiaries, and nearly every colony having a full super, many of them two each, and a few with three supers of sealed honey, it is certainly going to be a job to get this honey off unless we get a big change in the weather soon.

The Crop Committee, in sending out their

report, say that Ontario has an average crop of honey.

The question I hear asked among beekeepers, wholesalers who handle honey, and retailers as well, is, "Where is this average crop? We should like to get some of it." Last week I was at one of the largest handlers of honey in Toronto, and at that date they had not bought a pound of extracted honey. The manager told me that he had an offer of 15,000 pounds at 15 cts. and asked my advice as to whether he should take a chance on it. Needless to say I refused to pass an opinion as to whether it was a good buy or not; for with wholesale and retail profits to be added it would make pretty dear honey for the consumer.

While there at this same place a deal was just closed with an eastern Ontario producer for 400 cases of comb honey, each case having 15 sections. While I do not know what they paid for it, yet I do know that they were offering it to the trade at \$4.00 a case. That would mean that the retailer would have to get 35 cts. a section to have anything like a reasonable profit. Of course the comb-honey crop is extremely light; and the most of the crop, so far as No. 1 clover is concerned, is coming from the eastern part of the Province. This is also true of extracted, as I have seen very little honey produced west of Kingston this year that will grade as No. 1 clover. Cer-

tainly there is none in the counties adjacent to Toronto.

A lot of honey is being placed on the market this year which is no credit to the business, and cannot have anything but a bad effect on future sales of honey. A few days ago while at one of our large department stores I sampled honey in glass of this year's production that was as thin as syrup, and already fermenting. The manager told me it was from a western producer, but I did not ask his name. However, I have reason to believe there was no buckwheat in his locality; and if this was the case there was no excuse of putting such unripe honey on the market. Personally we extracted some honey this year that we were ashamed of. Fields of buckwheat were in full bloom; and with five yards we simply did not know what to do, as we naturally wished to get off some light honey before buckwheat started to yield; but at the same time, for some reason I cannot understand, the honey was thin, and the bees refused to cap it over. Suffice to say that a ton was taken off at one yard, and, as already intimated, we were sorry for it afterward. While it did not actually ferment, yet it was thin and had a peculiar acid taste to it that seems common to all the light honey I have tasted around here this year. I had many chances to sell it for local use, and could have sold it as well for store trade, but I would not place it on the market and have to dread hearing about it afterward. It was disposed of after furnishing a liberal sample to the dealer at a price considerably below what good honey should bring, with the understanding that it would go for baking and other like interests. But in future, buckwheat or no buckwheat, no green honey will be taken off if it possibly can be avoided, as it does not pay, no matter what view one takes of it, either in dollars or satisfaction.

On page 676, September, I am made to say that "I often work alone in the apiary, taking in honey and bringing back empty combs and accounting for 2500 or more pounds of honey in a day." This, of course, refers to the yard work only, as two were inside running the extractor and doing the uncapping. If not mistaken, the copy said, "I have often worked" instead of "I often work," for, let me whisper, as I get older and *lazier* I do not work alone in the yard any more during extracting, except at times when help is real scarce.

* * *

A good friend in Texas writes me lately of the terrible drouth they had in his section, and among other things says that he lost 300 colonies of bees and many nuclei—some loss, surely, and it made me think that, even if things were none too glowing here in Ontario this year from the beekeeper's standpoint, yet after all it might be much worse. While the crop is light, yet prices are good; and with the continued damp weather, in our section at least, the clover prospects are excellent for another year; and "prospects," as we all know, make up fully half of the beekeeper's expectations, and considerably more than that of his realizations.

* * *

Mr. Baldwin, page 706, September, refers in a cheerful way to the characteristic uncertainty of beekeeping, and advises us to "never say die" "until the white asters bid the closing year adieu." Just now the advice is particularly appropriate for "yours truly," for at this date the big apiary up north is much in need of winter stores. Acres and acres of asters and other fall flowers are in bloom, but unseasonably cool weather means no nectar. Here's hoping that old Sol comes to his own for the next two weeks, and that a big feeding-bill will be avoided.



TH E season in most of the state has been unusually poor, and the resulting condition tells on the colonies themselves, as well as on the output. In the high pine lands the partridge pea was in bloom in August, and reports showed that bees were gathering slowly from that source. They never gather very rapidly from this plant, but its long blooming period often results in a fair crop. Rains have been plentiful, thus

FLORIDA SUNSHINE

E. G. Baldwin, Deland, Fla.

far, and the yield ought to be good. While it is dark honey, it is still honey. Bees are in fair condition generally.

The appearance of American foul brood, on the East Coast, is a menace to that section. The aid of the Apicultural Department at Washington has been invoked to stamp out the pest promptly. It remains to be seen whether Dr. Phillips and his staff can find time to co-operate directly in the

effort at this time. Never before did Florida so much need a state inspector as right now. Honey-flows on the East Coast are and have been almost a total failure thus far. Poor years are always worse than good yields to bring out any latent disease among the bees. Bee-men are removing their bees from pine lands to swampy and hammock sections this summer to secure benefits of fall flowers when they come. All together, this year bids fair to be one of the worst in the history of the state.

* * *

During the early fall much care is needed all over the state to avoid loss of combs by moths. If colonies become weak, the ravages of the moth increase amazingly. Two weeks will utterly ruin a hive of combs if unguarded. If colonies are too weak to guard all combs, it is well to place a dummy in the hive and give surplus or excess combs to other stronger hives. If more combs are on hand than can be covered or guarded, it is well to place such in stacks of empty hives, and place a can of carbon-disulphide in the upper one. The sulphide needs to be placed in about every three weeks, unless combs are in moth-tight piles or stacks; then twice fumigating will suffice. We mean fumigating by fumes from the disulphide, above, not with sulphur, from below. The latter method is antiquated now.

THE BUTTERFLY WEED.

A correspondent sends us a beautiful clipping taken from the *National Geographic Magazine*. It shows the butterfly weed, and the appended article is as interesting as it is true to life. We had already seen the magazine—in fact, are a subscriber to it—but we thank the sender of this clipping just as heartily. We would refer all lovers of the beautiful to the columns of the magazine named. The artistic as well as the practical finds ample expression in the columns, and the illustrations are superb. Our correspondent, Mr. Edw. M. Bartea, of Brookhaven, N. Y., is a close observer of flowers and bees. He adds that he has never noticed that the bees carry away the little pollen-bags of the plant, stuck firmly to their legs. Many species of the milkweed, of which this is one (*Asclepias tuberosa*), do force the winged visitors to pay a toll by making them carry little bits of adhesive pollen-bags away from their blossoms after their visitations. The particular plant named is found as far south as Florida, but is not common in the state, nor does it seem to be a factor, so far as we can learn, in the honey crops of any portions of Florida. In Pennsylvania it is a common sight, cheering the waysides and dry ridges, making the autumnal landscape brighter for its orange-colored flare of beauty.



About half of those present at the Tennessee field meeting, Aug. 1, at the Davis queen yards, Spring Hill.

WE recently had the pleasure of a visit from

Mr. Kenneth Hawkins, when he passed thru here on his way to Washington from the southwest. Mr. Hawkins is doing extension work thruout the entire South, and has visited practically every southern state this summer, from North Carolina to Texas, giving instructive talks and demonstrations. He had many interesting experiences to relate.



Bruce Anderson, county agent for Forsyth County, has had very good success wintering in hives wrapped in paper.

Of course I made him talk wintering. He portrayed in glowing terms the strength and vigor of those colonies in Washington, when they came out of their packing-cases this spring. Plenty of early brood made them ready for the first early flows, whereas bees in that vicinity are usually unprepared to take advantage of them. I asked where that line was, that famous but elusive line dividing profitable winter packing from unprofitable. He said if I had to have a line, he believed it lay between that part of the country that had freezing weather-



John M. and Ben. G. Davis, the genial hosts of the Tennessee field meeting at Spring Hill.

THE DIXIE BEE

Grace Allen, Nashville, Tenn.

er and that which didn't, which classified me promptly.

I have regretted not being able to secure a more recent interview with Mr. C. E. Bartholomew, or a letter, for my article on wintering p. 753; but as he has been quite ill for some time, this has been impossible. We are all very sorry about this illness. He started into his work with much enthusiasm and earnestness. He certainly has all our best wishes for a speedy recovery.

The honey crop in middle Tennessee turned out to be even smaller than we estimated in the summer it would be. At that time we hoped for about a third of a normal crop. But there are many who got no surplus at all and some who will have to feed; and those who did take off a crop averaged probably less than 25 pounds. Local extracted is retailing at 20 cts. a pound in five and ten pound buckets, most producers around here retailing their own small crops.



Mountain apiary of a Dixie beekeeper, Mrs. Arnold Hunerwadel, Beersheba, Tenn. See page 702, September.

* * *

Things I Love

Hilltops wild and woodsy,
Cliffs, and shining seas,
Tho better still I think I love
Flashing wings of bees.

Sound of running waters,
Wind among the trees,
Altho I think I love still more
Murmuring of bees.

Mystery and wonder,
Dreaming at my ease,
And, oh the mystery and dream
That haunt a hive of bees!

Lines of singing magic
(Lyric verses, please),
Yet who can say which I love more—
Poetry or bees?

In the July number, p. 547, reference was made to the appearance of the American type of foul brood on the East Coast.

Subsequent verifications from Washington have proved that it is, beyond doubt, the American type, not the European. Apropos of the need developed for a good, efficient, and safe method of treatment, in view of the situation, the articles that treat personal experiences in fighting the pest make very interesting reading to all bee-men situated on that coast. The article by J. Dundas Todd, *American Bee Journal*, p. 156, is timely and refreshing. It advocates burning the hives, bees, combs, and all, much as Dr. Miller has advocated in previous articles, when the number of infected colonies is small. Mr. Todd urges a roaring fire, sides of hole in the ground heated redhot, from a mass of glowing embers in the center, work after dusk, and sulphuring of the bees before operations begin. He burns hives and all. He can do ten hives in an evening, he declares. The editor of the *American Bee Journal*, in a footnote, urges saving the hives, then burning the insides with a torch, and destroying only the combs, bees, honey, and brood. It is the latter modified plan that we shall try to encourage in dealing with this disease on the East Coast; and we urgently advise all bee-men, in the infected district, to examine all their colonies, and then treat heroically all that are found to be infected. Infectious diseases in the South are seldom as fatal or virulent as in the North. It is to be hoped that this may prove true of foul brood also.

* * *

Swarm prevention is the topic well handled by J. E. Crane, in *Domestic Beekeeper*, p. 253. The gist of the article is this: Begin early in season; start bees early in super by placing there combs with some brood in them. Remove the brood from the brood-chamber often, and place in above, giving combs or foundation below. Keep this up till signs of swarming are over, or the season warrants belief that no more danger of swarming exists—plenty of ventilation from first to last. The above is for extracted honey, of course. For comb honey, the treatment includes removal of brood early, at first signs of swarming, but then placing them on other (weaker) colonies, instead of in an upper story on the same hive; young vigorous queens, and

Our Neighbors' Fields

E. G. Baldwin

shade and ventilation. [The article is well worth careful study. We have always found, in working for extracted honey,

that it is a good

plan to remove combs of brood from the lower chamber, and place them in the upper story or stories above an excluder. Be sure to "include the excluder." Otherwise nothing seems to be gained, for the bees consider the two stories as one. Mr. Crane emphasizes the excluder. Similar features are incorporated in an article by E. S. Miller, p. 266, same journal.—E. G. B.]

* * *

An extract from a speech delivered in the Senate of the United States by Hon. Chas. S. Thomas, of Colorado, entitled The Tariff, the Sugar Trust, and The War. We quote, p. 13:

"In my section of the country, Mr. President, sugar companies occupy a peculiar advantage. They have capitalized not only the tariff and capitalized the future in their common stock, but, as I directed the attention of the Senate two years ago, they have also capitalized inequalities in transportation rates, all of them working to the disadvantage of the consumers in the beet-producing region. There is a close and indissoluble connection between the great transportation companies of the United States and those huge industries which dominate almost every avenue of human effort and enterprise. Thru the conjunction of the control of big business with the control of transportation lines thruout the country, competition becomes an impossibility. Equal rights to the channels of trade for legitimate competition no longer exist." [Mr. Thomas here raises a vital question, and makes most far-reaching assertions. As my old professor used to say, "Interesting if true." Mr. Thomas claims to have the data to prove his assertions.—E. G. B.]

* * *

INTERCHANGEABLE BEEKEEPERS' SUPPLIES.

"Why cannot the different manufacturers of supplies get together and cut the rabbet of the hive body the same depth and width . . . when the frames of the different makes will interchange with bodies of different manufacturers?" asks Ed. Townsend, in *Domestic Beekeeper*, p. 304. [We are approaching standardization in apiculture every year; but much yet remains to be done. The note sounded here is timely.—E. G. B.]

C. M. T., Georgia.—1. On June 5, 1916, I introduced an Italian queen (ordered from a queen-breeder) to a colony of blacks. I looked for her in a few days and didn't find her then; but when

I examined about a month later I found lots of Italians and plenty of brood. I looked again in about another month, and found what looked to be a black queen, altho I was not sure about it. Then before long I noticed that the Italians seemed to be decreasing instead of increasing; and now, a little over a year after introducing the queen, there are still quite a lot of Italians, but the majority of them are as black as I ever saw. As the drones hatched in this hive are black, I've decided that they must have allowed a black queen to emerge from a cell started when I introduced the other queen, and destroy her. Do you think this is right? If so, why did they accept her and then allow another hatch to destroy her?

2. In this locality, where bees fly practically every day thruout the winter, do you think it would do any harm to leave the shallow extracting-supers on the hives during the winter? Would the bees cluster in them with no brood in them?

3. My ten-frame hives measure $14\frac{3}{4}$ inches, inside. If I take out one frame and leave only nine, would they be spaced too far apart? Even if it didn't reduce swarming, wouldn't it make the frames easier to manipulate?

A. 1. Your theory about the young virgin of a former mother supplanting the introduced queen is probably correct. It very often happens that when a queen is introduced the cells that may have started in the meantime will be allowed to develop and hatch out a virgin. If she, by good fortune, is able to elude the old queen while she is young and weak she will later on be more than a match for the older queen and may kill her. This is what probably happened to the Italian queen that you introduced.

It is hardly possible that the Italians which you found in the hive a year afterward were the daughters of the Italian queen that you introduced. Bees get mixed more or less, going from one hive to another. If your black colony was near an Italian colony, or even if it was quite remote from one or more Italian colonies, you would be almost sure to find some Italian bees among your blacks and some blacks among your Italians.

2. We would advise you to leave on the extracting-super, but take out the frames and fill it with packing material. In the South it would be a great advantage to have top protection.

3. Fourteen and three-quarter inches for nine frames would be a little wide—little more than $1\frac{1}{2}$ inches; $1\frac{1}{2}$ inches from center to center is supposed to be the limit of good practice in the spacing of frames; $1\frac{5}{8}$ or $1\frac{1}{4}$ from center to center will do very well in the production of extracted honey when the combs are shaved down afterward by the uncapping-knife.

A. E. A., Michigan.—Which is the better honey-plant—white clover or alsike?

GLEANED BY ASKING

E. R. Root

A. Acre for acre, alsike is far superior to white clover. One field of 20 acres of alsike will take care of an apiary of 50 colonies very nicely, providing there is white clover in the locality to back it up. We have observed over and over again that yards in the immediate vicinity of fields of alsike clover will yield much more honey per colony than those yards having only white clover and a great abundance of it.

T. W. B., Pennsylvania.—A fruit-peddler driving by my place claims that my bees stung his horse on the common highway, that the horse became unmanageable to the extent that the fruit was scattered up and down the road. He claims damages, and says that if I do not settle he will bring suit.

A. If you can show that this was the first account of any horse being stung, and can prove by reliable witnesses who have been in the habit of going by your place that their horses or teams have never been stung, the fruit-peddler could not recover damages. If the peddler can show that you were negligent or careless when his horse was stung, then he might get a judgment in his favor. In any event, the amount would not exceed the value of the fruit plus the damage, if any, to the rig. Cases like this have come up before, and the courts have held that bees are not a nuisance per se: that moreover they are useful to man, and as such their owners cannot be held liable for occasional occurrences like the one mentioned, provided, of course, the owners were not negligent or careless when the accident occurred.

S. T. G., Ohio.—During this year I notice that cherries are much more abundant near the bees in a large eight or ten acre cherry-orchard than on those trees more remote.

A. During some seasons the increase in the amount of fruit in the immediate vicinity of the bees is apparent. When the spring is backward and cold at the very time the trees are in bloom, bees will not go further than is absolutely necessary, and will visit only those trees near at hand, and particularly on the leeward side where the wind does not strike the trees. It has been demonstrated over and over again that a tree fully pollinated, whether cherries or anything else, will stand wind or cold better than a tree not pollinated; hence it has come to be more and more the practice to scatter the bees over the entire orchard instead of putting them in one concentrated lot in the center of the orchard.

H. C. T., New Hampshire.—For winter feeding, which is better—an inside or outside entrance feeder?

A. If the weather is cold, the inside feeder is preferable, altho not so handy. The Boardman-Mason jar entrance feeder may be used, however, until freezing

weather, provided the weather is warm enough during the middle hours of the day so the bees can take in the syrup. If the weather is quite cold it is advisable to have the syrup heated as hot as one can bear the hand in.

J. E. M., White Cloud, Kansas.—Will you please tell me why some of the three-banded Italians in a colony are so dark and some so yellow?

A. There are some queens which do not breed true. Some of them will show quite light-colored Italians, and some will show darker ones. It is possible the queen was crossed with a yellow drone. Some of the bees may take after the father, some after the mother. The same peculiarity occurs in many animals as well as among bees.

C. H. H., Wisconsin.—What have I to do to have my extracting-combs go thru the winter alright? Should they be cleaned by the bees, or left just as they come from the extractor?

A. If the combs are left sticky after extracting, there is greater danger of their becoming infested with moths and also a chance that honey may granulate in the cells. It is a good plan to have the bees clean out the combs. The easiest way is to stack them in piles as high as one's head, leaving a small opening at the top and bottom of the pile. A bottom-board may be placed underneath to catch the small particles of wax that will accumulate there. However, it would be rather risky to employ this method if there chanced to be any diseased bees in the locality. In that case, we would advise putting the supers directly on the hives, four or five supers to a colony, the supers being separated from the bees by an escape-board, with the escape removed and the hole contracted to a space large enough for only a bee or two to pass thru at one time. With this arrangement, the bees think the honey does not belong to them, and therefore proceed to clean it out, carrying it to the brood-chamber below.

J. K. D., Ohio.—Will white clover yield honey every season? Some years I remember when there was very little white clover, and yet there was a good deal of white-clover honey. At other seasons I have noticed that fields were white with it, but not very much nectar in it.

A. When it rains almost every day, white clover while in full bloom may and probably will have a little nectar. The white needs a great deal of moisture, but the wetting down should come in intervals of at least a week apart. If white clover is out in heavy bloom by reason of heavy rains almost every day, it probably will not yield unless there is a prolonged spell of hot weather of at least a week or ten days without rain, at the end of which time there must be rain or the flow will be over.

M. A. C., Wisconsin.—I have a lot of wooden feeders, and some of them leak. What is the best way to make them tight?

A. They can be coated on the inside with hot paraffine or beeswax—preferably the former, as it is much cheaper. They can also be painted on the inside with white

lead. Unused feeders should always be stored in a dry place after using. If left outdoors they will soon be rendered useless, and even paraffine may not make them perfectly tight.

I. S. B., Maine.—Some years ago I used to hear a good deal about the importance of spacing combs wider apart during winter than the regular distance used in summer. Why don't I hear anything about it now?

A. It was found that bees winter well on summer spacing. There was no proof that the wider spacing resulted in better wintering. The question of whether the combs should be spaced, either summer or winter, $1\frac{3}{4}$ or $1\frac{1}{2}$ inches from center to center is not fully decided. Bees winter well both ways, and probably there is no difference. At all events, there was no gain in spacing the combs $1\frac{3}{4}$ and even 2 inches apart.

P. L. W., Pennsylvania.—Is it possible to make a sugar syrup at an outyard and feed it to the bees direct? What I am trying to do is to avoid carrying the water. I have an outyard located near a stream, and I do not wish to carry any more than I actually have to. Will you explain how I can make the syrup?

A. You can make the syrup by using a galvanized iron wash-tub, and setting it up on three bricks or stones. Fill it one-third full of water, and then build a fire under the tub. In the mean time put on the feeders. In the course of half an hour the water will be hot enough so you can stir in the sugar, which should ordinarily, for feeding, be in the proportion of two of sugar to one of water. Syrup made out of doors this way should be made when the weather is too cold for the bees to fly to avoid robbing. Usually a cold morning can be selected, even as early as September in most localities in the North.

L. H. S. Iowa.—1. In case of ordinary uniting of bees the bees moved will go back to the old stand—at least the old ones will. Among other plans to prevent this you recommended a year ago uniting the colonies of one outyard with the weak ones of another yard. Do you still advocate the plan?

2. Where one has his bees all in one yard how would you recommend uniting the weak ones?

A. 1. The plan of uniting weak colonies from two separate yards we still consider to be most excellent. It prevents all returning, and makes good colonies to go into winter.

2. Where two colonies to be united are in the same yard side by side they can be put together very readily by placing all the bees and combs in one hive and removing the other. Where the two colonies are remote from each other, the process is not so simple. Dr. Miller recommends putting a single thickness sheet of newspaper between the two hives at the time the uniting is effected. As it will take several days for the bees to gnaw a hole thru, the bees get together very gradually; and after being confined they do not go back to the old stand to quite the extent that they do when the uniting is done without the paper. We have tried the plan lately, and it works very satisfactorily. But beginners should be cautioned about using the

newspaper plan during hot weather. Uniting should usually be deferred until a cold day comes—so cold that the bees cannot fly. If the weather continue cold for two or three days, all the better.

Some beekeepers make a narrow slit in the paper between the two hive-bodies. Others make a hole thru with a lead-pencil, which the bees gradually enlarge.

Another plan of uniting that has worked very satisfactorily with us is to shake the bees of several nuclei all into one box. We have sometimes shaken a dozen nuclei into one hive-body containing a screen at the bottom and a screen on top. The bees are kept this way over night in a cool place. If the following morning is quite cold the bees are thoroly mixed up and then dipped up by the dipperful and distributed at the entrances of colonies that need bees. The general mix-up of so many different bees seems to have a tendency to break up the family spirit, making them, to all intents and purposes, a swarm. The plan is not as simple as the newspaper scheme, but is to be preferred when there is a large number of weak nuclei to be united.

C. J. W., New Jersey.—My bees have gathered a great deal of aster honey. I read somewhere that such honey is a very poor winter food. Would you advise me to extract and feed sugar syrup?

A. That depends. If the aster honey was gathered early, before it gets very cold, and is all capped over, there is not much danger of winter losses. But late-gathered aster honey left unsealed is liable to cause dysentery before spring; but it does not always do so. It should be remembered that dysentery is caused by two conditions—poor quality of stores and too much cold. The latter condition can be corrected by having a colony very strong or the hive well packed, so that the bees are not subjected to extremes of temperature. But even when the hives are packed, unsealed aster honey may cause trouble before spring.

If we found unsealed aster honey we would remove the combs containing it and substitute those with other stores sealed over. Of course one can remove the aster stores and feed sugar syrup composed of $2\frac{1}{2}$ parts of sugar to one of water, if he does not have combs of sealed stores.

A. L. C., New York.—My business is such that I was unable to begin extracting from my hives until the first of September. If it had been possible I would have extracted immediately after the honey-flow in July. Did I lose much by extracting on the first of September?

A. If the honey was left on the hives until the first of September considerable of it may have been carried below into the brood-nest. But this extra honey must have kept breeding up to a good point, and left nice colonies for winter. One objection to leaving honey on the hives is that some fall honey may be mixed with light. Moreover, the honey when extracted may have a pollen taste, especially if it is in old combs containing a little pollen. It is advisable to extract ei-

ther during a honey-flow or very soon after, to get a first quality of honey. It is a good and safe rule to extract only from sealed cells, altho there are times when extracting can be done when only two-thirds of the cells are sealed.

C. G. G., Wisconsin.—American foul brood has developed in three of my colonies this fall. Shall I treat by the shaking plan now or do the work next spring?

A. It is a little late to shake and feed up. We would advise taking out combs that contain the foul brood and substituting combs of honey from other hives. Then you had better treat by the shake plan next spring. Combs that contain foul brood should be either melted or burned up.

G. H. W., Ohio.—In feeding during late October or early November, will it do to use the syrup half water and half sugar?

A. It could be so used; but it is much better to use a syrup two of sugar to one of water. It may be advisable to make it $2\frac{1}{2}$ of sugar to one of water. The syrup should be thoroly heated and the sugar dissolved when it is $2\frac{1}{2}$ to one. When as thick as this it is advisable to use a little vinegar or a little honey to prevent granulation. But be sure the honey is free from disease.

J. L. H., Indiana.—We used to hear a great deal about sub-earth ventilators for bee-cellars; but lately I have seen nothing in the bee-journals about it. Why is this?

A. Some years ago sub-earth ventilators were discussed considerably in the bee-journals, and great claims were made for them. They were nothing more nor less than six-inch glazed tile laid in the ground at the bottom of the cellar, and gradually rising to a point three or four hundred feet from the cellar until they came to the surface. The argument was made that the air would be warmer in its downward passage; and if there was a ventilator connected with a house chimney fresh air would be sucked into the cellar. Under these conditions the ventilation was good, and sub-earth ventilators served a useful purpose; but a sub-earth ventilator without a chimney or pipe running up thru the roof of the building is not of much use; and even then the chimney should be hot in order to create a draft. The ordinary chimney that goes into the cellar, and which takes care of a stove in a room above, will furnish a good upward draft.

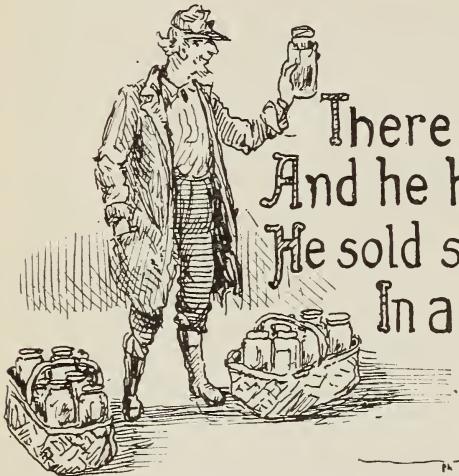
Many cellars nowadays have furnaces in them. If the bee-room joins the furnace-room, with a door that can be opened or closed, excellent ventilation will be secured. The opening of one window in the bee-room will let fresh air in. This window should be so blinded that the air can enter but shut off the light.

F. H. R., Wisconsin.—Does the use of queen-excluders interfere with the bees storing honey in supers?

A. Those who use them extensively say not. There is no reason why they should make any difference if properly made.

Mother Bee NURSERY RHYMES

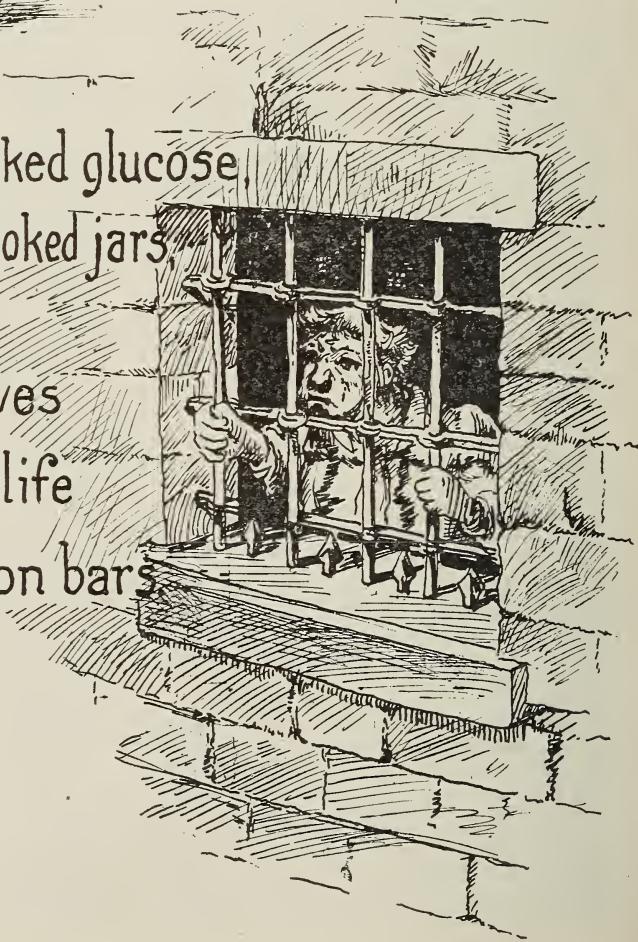
By M.G.P. (Mother Goose Plagiarized.)



There was a crooked man,
And he had a crooked smile,
He sold some crooked honey,
In a very crooked style.

He put some crooked glucose
In some pretty crooked jars.

And now he lives
his crooked life
Behind big iron bars



HEADS OF GRAIN FROM DIFFERENT FIELDS

Furnace-Heated
Cellar For Winter-
ing Bees

I should like to have Dr. Miller give a detailed description of the wintering of his bees in his furnace-heated cellar, with special reference to area of ventilation of hives, temperature of cellar, amount of stores consumed, and ventilation of cellar. Are his bees as quiet now as before he put in his furnace? How much more stores do they consume than they did before? I have read his "Forty Years among the Bees," in which he stated he was having trouble with bees starving, but have noticed in *Stray Straws* that he has referred quite often to his success with furnace wintering.

We are wintering 60 colonies in the cellar under our home, and expect to put in a furnace next year and enlarge the cellar so as to keep more bees. We always wait until first snow or freezing weather before putting in the bees, as they become very much excited if put in while it is still warm. We have regular ten-frame L. frames, and the winter entrance is the width of the hive by 1½ inches high. When there is snow on ground we use a sled to draw the bees from the yard to the cellar, about 50 yards. If they fly out from jarring, we throw loose snow over the entrance to close it up. When in the cellar it soon melts out. We run for both comb and extracted. This year is the best we ever had. Our average surplus is 104 lbs. per colony. F. M. Babcock.

Fredonia, N. Y.

Replying to these inquiries, I may say that further experience only confirms my liking for a furnace in the cellar. It is true that the problem now is to keep the cellar cool enough, whereas formerly, without the furnace, it was hard to keep it warm enough. But by opening doors and window there is little trouble in cooling off, with the very important advantage that the cellar is constantly filled with pure air—a matter that is of very great importance. Sometimes the thermometer goes up to 60°, and sometimes it may go below 40, but usually it is not far from 50°. By giving closer attention I could avoid such wide variation, but I'm not sure it would be worth the trouble. The point is that the air in the cellar is so much warmer than the outdoor air that the cooler and purer air is always crowding in, and I think purity of air is more important than temperature. The winter of 1916-7 was so very cold that most of the time the cellar was kept closed, and I paid very little attention to it, hardly looking at the thermometer once in two weeks.

Of course there is trouble when a warm spell comes toward spring, and the air in the cellar and outdoors is of the same temperature. The air outside and inside being balanced, there is nothing to make ventilation; the air in the cellar becomes foul, and

the bees become uneasy. But that same thing happens in warm spells, furnace or no furnace. The only thing to be done then is to open up to the widest at night, so as to change the air in spite of the stillness.

As I have already said, more stores must be given since the furnace is in the cellar. I'm not sure that there is such a great difference between the total amount of stores used now and formerly; but for some reason there will be a colony here and there that will consume much more than the average, and to make sure that these have enough the whole must be more heavily fed. Each colony should have at least 30 pounds of honey, and more does no hurt.

Give pure food and pure air, and I suspect temperature is a secondary affair. Only the nearer to somewhere about 50 degrees, the less consumption of stores. C. C. Miller.

Unwise to Let
Honey Candy in
Large Tank

The great bane of the extracted-honey man is too little honey in the brood-nest. I have been testing a few colonies leaving them for the winter with a half-depth super of extracting-frames. So far it has worked well. This winter all are like this. It is a very easy way of wintering, and does away with all feeding, either in fall or spring. If the colony is protected properly, and very strong, it seems all right.

Now I have another kink that would have been worth money to me had I known it years ago. I used to let my honey candy in almost anything. My honey-tank holds 1600 lbs., and I have had it full of candied honey several times. It's almost all it is worth to get the honey out. This winter I had several thousand pounds I knew would candy; but I have put it in common lard-cans which hold about 65 lbs. I have a boiler just right for two, on the back of the range, and it costs me nothing to remelt it in 24 hours. I know honey-cans will do, but they are short-lived. I have cans that have been used for eight years. The bottoms are painted, and the inside is wiped with a greasy cloth when putting away.

My bees averaged about 400 lbs. of extracted honey per colony the past year. Most of the crop I have disposed of at home. The rest was sent to distant customers.

Marceline, Mo.

Irving E. Long.

Successfully Winter-
ed in Cellar Above
Ground

Last fall I had a small out-apriary of 17 swarms three and a half miles from home. Dreading the trouble of moving them, I decided to winter them in the cellar of the house where I did my extracting. This cellar was above ground, but double-walled

HEADS OF GRAIN FROM DIFFERENT FIELDS

and banked with clover straw. It was 10 x 10 x 6 ft., single floor, and tar paper for windows.

I put in the bees about Dec. 15, and the temperature was 45 degrees. Dec. 26 it was 32 degrees; and until March 20 it varied from 25 to 28 degrees most of the time. Fifteen of the colonies were strong, and all wintered except the weakest one, which died of starvation, not having one drop of honey left in the combs. Jan. 25 the entrances on all hives were closed with ice from the moisture which had accumulated inside. They had metal covers with inner covers and bee-escapes. So I gave each a $\frac{3}{4}$ -inch hole in the hand-hole. They remained as quiet as could be expected, and did not freeze. Later in March three showed signs of dysentery and were a little uneasy at the approach of a candle. April 1 they were set out. Two weeks later most of the colonies covered six combs; and, altho there was a strong wind and freezing weather, they stood it first rate.

The middle of March I opened the cellar window on the south side and cut an eight-inch hole into the inside. This was open day and night till now the inside walls and tar paper on the window have a crust of ice about $\frac{1}{4}$ inch thick. Where could it have come from?

On the whole, they wintered better than those wintered in my home cellar where the temperature is mostly 45 degrees. This coming winter I shall winter about 30 swarms in the same cellar. In seven years wintering in cellars and outside I have lost but one swarm and that was the one that starved.

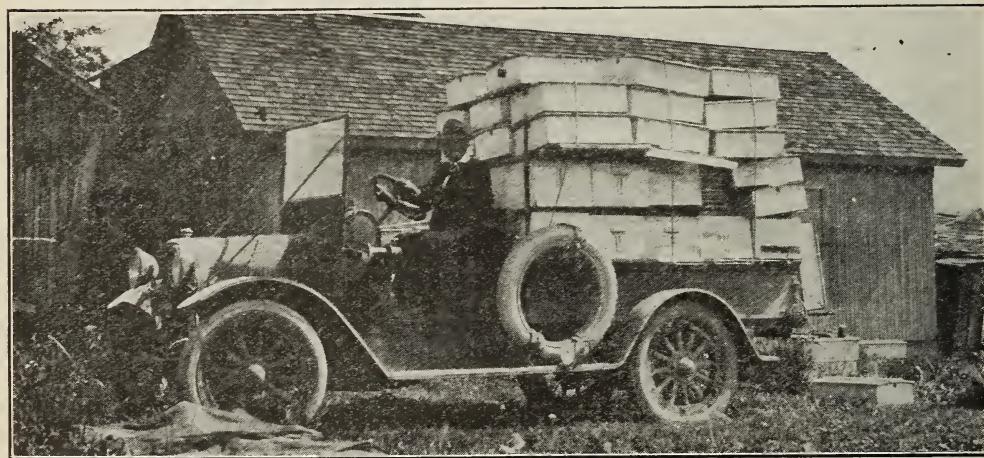
C. H. J. Baumbach.

Fall Creek, Wis.

Quadruple or Double Cases for Wintering? In recent issues I have noticed some reports of trouble in wintering in quadruple cases. I am glad that I am not alone in seeing faults in that style of wintering. There is one part of my apiary in which I cannot winter successfully in quadruple cases especially if they face east and west. Just why it is worse in that particular part I do not know, as the conditions are much the same, only perhaps the ground is a little lower. Last winter I tried facing them north and south, and they did better; but I notice in the spring when I put supers on the strongest colonies that it is the same all over the yard—the south colonies have the supers. I have a number of double cases facing south, and have lost only one colony yet by dwindling. My two single cases facing south have never given me any trouble, so I naturally conclude that single cases facing south are the best; but for economy's sake I am making double cases of three-eighths matched lumber. There is quite an advantage in having either single or double cases all face the same way, especially if the bees are cross, for it prevents the necessity of passing between entrances of colonies that are too close. Two years ago I purchased two supposedly pure Italian queens and proceeded to requeen my yard of 120 colonies. The queens were prolific and their progeny were good honey-gatherers; but when they joined themselves to an apiarist it was a case of "till death us do part." I believe in cases like this it is quite an advantage to have colonies face one way, and the further apart the better.

Thomas Martin.

Wanstead, Ont., Canada.



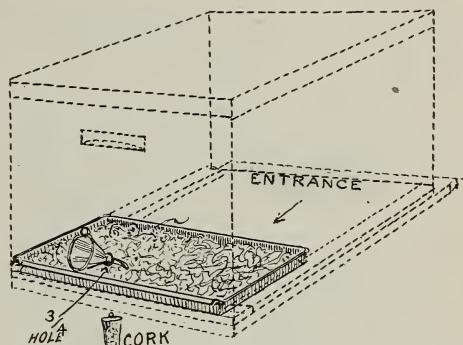
Thirty colonies in old style double walled hives loaded on the Root Company's Reo truck—a good load for a ton truck.

HEADS OF GRAIN FROM DIFFERENT FIELDS

Powell's Floor-Board Tin-Tray Feeder

Before a honey-flow comes on bees do not anticipate the approaching need for a strong force of workers, but they wait until the flow actually begins before the queen becomes active, and generally the flow has ceased before the young bees are ready for work. The colonies do not get the full advantage of the flow because of the lack of workers; on the other hand, there is an increased lot of bees to consume the honey gathered, and nothing useful for them to do. The beekeeper who knows when to expect a flow will begin feeding four to six weeks before, if there is that much time between flows, or will feed enough to keep up brood-rearing between flows that are not so far apart. Last fall, or during the late summer, I discovered one hive absolutely without stores and turning out young bees as fast as they were hatched. Seeing apparently perfect young bees running away from the hive caused me to investigate, and I discovered that they were without stores. I immediately began feeding. The fall flow was just sufficient to enable the bees ready for it to "stock up" for winter. Two months later I discovered that the hive I had fed was nearly twice as heavy as any of the others, and it was in the poorest condition at first. The timely feeding did it.

My feeder is a square tin pan made $\frac{3}{4}$ inch deep, the full width of bottom-board. Across the back side is a quarter-inch "lip" which slides under the back of the hive to prevent syrup from running back behind the pan and getting under it, wasting the syrup and messing up things. I bore a $\frac{3}{4}$ -inch hole thru the back of the hive and am ready for business. In any kind of weather, day or night, I go to a hive, remove the cork from the hole, insert



a funnel and pour in as much syrup as I want. After inserting the cork the bees of other colonies are ignorant of what is going on. There is not a particle of waste, as I fill the pan with wood excelsior which holds up the bees, keeps them from falling into the syrup, and enables them to get at every particle of feed. The pan can be slipped out or in from the front. The inside edge of the back of the bottom-board should be beveled and the lip of the pan bent to fit the bevel.

C. W. Powell.

Joplin, Mo.

Carbon-disulphide to Fumigate Comb Honey

Will you please inform me if comb honey can be well fumigated for wax-moths when piled in stacks ten supers high and well wrapped in blankets to confine the fumes? I would also like to know the amount of carbon-disulphide that should be used for ten Danzenbaker supers.

Clarkson, N. Y. Frank H. DeGraff.

[Ordinarily we do not fumigate as many as ten supers at a time, altho we do not



The same hives located on separate stands after the move.

HEADS OF GRAIN FROM DIFFERENT FIELDS

know that there would be any objection to it provided you had everything tight so the gas could not escape. It might be necessary to paste paper over the cracks to make sure.

The higher the temperature the greater the difficulty in obtaining complete saturation. In other words, more of the liquid carbon disulphide is needed at a high temperature than at a low temperature. To saturate 1000 cubic feet of air at 50 degrees Fahrenheit requires 53 5/10 pounds of liquid carbon disulphide; at 68 degrees, 77 6/10 pounds, according to figures given in Farmers' Bulletin No. 799 of the U. S. Department of Agriculture. Therefore 10 cubic feet of space requires at 70 degrees about $\frac{3}{4}$ of a pound of carbon disulphide for complete saturation; and to make sure that the eggs as well as the larvæ of the moths are killed the exposure should be not less than twelve hours. A ten-frame comb-honey super contains nearly a cubic foot of space; but the honey occupies a large proportion of that space, so it would be safe to assume that a quarter of a pound is sufficient for ten supers.

There is little danger to a human being in getting an occasional whiff of the gas, altho if one were in a room where the gas were very rich there would be danger. When merely working around stacks of supers with a dish of carbon disulphide on top the danger is practically negligible.

Remember that this liquid is inflammable, and that just as much care is necessary in handling it around a fire as in handling gasoline.—Ed.]

Packing-Cases Little Used in Maryland

Mrs. Allen's discussion of the wintering problem is very interesting. Of course our winters here (Baltimore Co.) are very much more severe than in Tennessee; nevertheless, a packing-case is never seen in this locality. My own experience has not been very extensive; but Mr. James merely puts on a super of leaves or chaff, and wraps the most exposed hives with tar paper. I know Dr. Phillips advises against black paper in winter; but I'm not sure the results justify the advice. Last winter was unusually cold, with high winds, but Mr. James' two yards of about 160 colonies came thru with only one gone, and that was lost because of clogged entrance. The rest were strong in bees and general vigor, and went right to work.

One point in this method is important, especially when the hives are not wrapped, and that is, to put the super on in time for the bees to seal it to the hive body before cold weather. Another wrinkle which I believe is a big help is to cover the brood-

frames with a piece of enameled oilcloth, common table oilcloth, a little smaller than the entire surface of the tops of the frames, first placing sticks across to give the bees a passage from frame to frame. The chaff, or whatever filler is used, is put in a sack or other container and pushed down on the cloth. Of course the enamel is placed next to the bees.

This isn't exactly in line with the absorbent theory, for the moisture condenses on the cloth and runs down to the bottom of the hive, but the combs will be brighter and the chaff dryer than when no cloth is used. When the packing is placed directly next to and above the bees, all the moisture is held by absorption except what evaporates from above. In a natural cavity the bees propolize the ceiling of their home, and whatever moisture arises condenses and runs down and out at the entrance. When we put an enameled cloth above the frames we duplicate the natural condition, and we have the same warmth preserved by the packing material.

C. W. Marshall.

Baldwin, Md.

Bees Left All Year Enclosed you will in Single Winter Case find a picture of my chaff hives. I put one hive in each one of these winter cases and let them stay there all summer. The packing is left around them, also in summer. Working on the Doolittle plan I would ex-



Berrian's winter case left on the year round.

change frames instead of hives. This winter case is made large enough to accommodate one brood-chamber and two or three supers, or three brood-chambers of the Massie type for extracted honey, or two brood-chambers of the Langstroth style. The entrance and bottom-board are better than any other kind I have ever seen. There is a wooden slide to keep out mice in winter.

Highland, N. Y. Victor G. Berrian.

HEADS OF GRAIN FROM DIFFERENT FIELDS

Caged Bees and Queen Murdered by Ants.

o. k. Two were placed in the hives at once. I placed one queen-cage containing the queen and bees on my writing-desk in my house.

The next morning the queen-cage was completely alive with tiny ants! They were so small that they could hardly be seen with the naked eye. The ants do not bother sweets, neither do they work at daylight. But they seem to come from nowhere, and by the millions. I placed the empty cage back among the ants, but not one would stay on the cage or the bee food. I then placed the dead bees beside the cage and the ants piled on them by the hundreds. Grease is what they like, and I am sure now that they like bees.

W. H. Worden.

Brookings, S. D.

I ordered some young queens to replace some that were lost in swarming.

The queens arrived

Combs of Unsealed Honey; Are They Fit to Extract? Please tell me what to do with extracting frames about half full of honey. This is my first year's experience with extracted honey, and a very poor season too. I have so many frames about half full I thought there might be a way I could give them to one hive and get it in the frames sealed up so it can be extracted.

Selah M. Shuey.

Germantown, O.

[If unsealed honey is left on the hives long enough it will become thick and well ripened. We have often extracted much honey and found no difference in body or flavor. Some beekeepers do feed back honey in order to get their sections finished; but for extracted honey that has remained on the hives as long as yours we see no object in all this extra labor.—Ed.]



THE BACK-LOT BUZZER

BY J. H. DONAHEY.

The lineman, who tried to get the honey out of the big oak tree on Uncle Benny Sourweed's farm, said he was an expert at tree climbin', but he didn't know much about bees.

The Doctor says the swellin' will all be gone in about three days.

THE A. I. Root Co., in order to care better for its constantly increasing trade in the Middle West and West, has secured an interest in the Kretchmer Manufacturing Company at Council Bluffs, Iowa, and has taken over the conduct of that business, but under the present name of the Kretchmer Manufacturing Company. The geographical and shipping advantages of the Council Bluffs plant determined the Root company in undertaking part of its manufacture there rather than enlarging its home plant at Medina.

The fourth annual conference of the National Beekeepers' Association of New Zealand was held at Wellington, N. Z., on June 6, 7, 8, last. Prominent beekeepers from all parts of the state were present. New Zealand's secretary of agriculture, Mr. F. S. Pope, in opening proceedings said that the compulsory registration of all apiaries in the state would probably soon be brought about by law, and that the department of agriculture was likely soon to establish a queen-rearing apiary. A good deal of the attention of the conference was given to the question of aiding in the care of the apiaries of those who had been called to the front, and as to beekeeping as a livelihood for the maimed soldiers who might return from the battlefields of Europe. All possible aid was assured the beekeeper soldier and the maimed soldier who might become a beekeeper. Honey prices have materially advanced in New Zealand; the demand is excellent, and the conditions are promising for the coming summer season. The newly elected officers of the association are: President, W. E. Barker, Peel Forest; vice-president, H. W. Gilling, Hawera; secretary and treasurer, F. C. Barnes, Kati Kati; editor of New Zealand *Beekeepers' Journal*, F. C. Baines.

The Queensland (Australia) Beekeepers' Association is promoting "The Queensland Apiary Co-operative Company, Ltd." The capital stock is \$100,000 divided into 20,000 shares of \$5.00 each. The object of establishing this co-operative company in the State of Queensland is to establish suitable means for the marketing of honey on the co-operative principle. In the beginning this company proposes to confine its operations to the wholesale handling of honey



and by-products, leaving the bottling and retail package business to other operators. No application for less than five nor more than thirty-five shares of company stock will be entertained, and share-holders must become suppliers to the co-operative company within three years of registration, or otherwise their shares may be revoked. Indeed the Queensland Beekeepers' Association appears to be a very wide-awake organization, constantly looking toward the betterment of beekeepers and apicultural conditions in Australia.

Francis Jager, president of the National Beekeepers' Association, in the latter part of August received a commission from the United States Government as Deputy Commissioner to the head of the American Red Cross in Serbia, and sailed for Paris a few days after having received the appointment. As D. C. Polhemus, vice-president of the National, died last February, the only remaining executive officer of the association now on duty is the secretary, John C. Bull. Before leaving, with his usual keen interest in the welfare of beekeepers Mr. Jager expressed anxiety for the program of the next National meeting. He left all the National Association correspondence on file at the University Farm, St. Paul, Minn., in charge of Mr. France. He said that possibly he might return temporarily within a few months, and, if at all possible, on his way to Italy and Switzerland would bring with him some queens and other useful articles and information that he might gather on the journey. Just before leaving, Mr. Jager said to the editor of *GLEANINGS*, "Should you hear that we went down, I will die game like a beekeeper who received his last sting from a German submarine."

In an article recently appearing in the Minneapolis *Tribune*, and given still wider circulation by being copied into the New York *Herald* of Sept. 2, John Jager, superintendent of the bee-culture department of the Minnesota State Fair, strongly urges beekeeping for soldiers who may be disabled in the war. In this article Mr. Jager said: "While the annual honey crop of Minnesota is worth close to a million dollars, there is about nineteen times as much that goes to waste. That means that about \$19,000,-000 is wasted annually because that amount

of honey is untaken. The reason for this tremendous waste in Minnesota is that there is a big shortage of beekeepers—there are not enough of them to harvest the possible honey crop." Mr. Jager suggests that the United States government provide its unfortunate soldiers, who become invalided in war service, a course of study in bee culture. He concludes his views by saying: "The Government should also give them the financial aid needed to start an apiary. Once started, they will be able to take care of themselves, as the profits are large."

The Ohio field meet, under the auspices of the Ohio State Beekeepers' Association, was held at Wilmington, Sept. 6 and 7, in the Walker memorial building. While some of the out-of-state speakers failed to appear, the attendance was fair and the interest excellent. On the morning of Sept. 7 the members were carried in automobiles around the surrounding country inspecting beeyards, stopping particularly at the yard of J. E. Vernard. Addressees were given before the meet by Mellville Hayes, A. C. Ames, of the Ohio Inspection Department, D. H. Morris, and E. R. Root. In the afternoon a talk by E. R. Root was given before citizens and pupils of the Wilmington schools on bees, making special reference to the important work they do in pollinating flowers. President Mellville Hayes, of Wilmington and Secretary Ernest Kohn, of Groverhill, are making large plans for the winter meet. The next field meet is to be held at Medina, where it was thought that exceptional opportunities can be given to beekeepers to learn the latest methods of management.

Mr. Morley Pettit, of the Ontario Agricultural College, Guelph, has resigned as Provincial Apiarist, and after Nov. 1, 1917, will devote his attention to the Pettit aparies, with headquarters at Georgetown, Ont. Communications having to do with this office should be addressed to the Provincial Apiarist after the above date, so they may receive the attention of Mr. Pettit's successor, whoever he may be. Mr. Pettit says that it is with considerable regret that he retires from office, as the duties have been congenial and the relations with the beekeeping public most cordial; but he now feels that the production of honey offers a greater future, and is less exacting than the life of a civil servant.

The Food Administration at Washington has sent out an appeal to the housewives of the nation to save sugar, saying

that Americans use twice as much sugar as any other people, and that this country's allies in Europe face a shortage for their real needs. The authorities ask people to use less candy, less sugar in tea and coffee, not to frost cakes, and—what is important to the beekeeping business—substitute honey wherever possible. A practical turn is given to this advice by giving a recipe for honey-drop cakes.

A postponed regular field meeting of the New Jersey Beekeepers' Association was held on Aug. 30 at the home of State Bee Inspector E. G. Carr, at New Egypt. There was an excellent attendance and lively interest. The features of the day's program were demonstrations given by Mr. Carr, both in inspection work and wax-rendering. It was voted to accept the invitation of the New Jersey State Agricultural Department to hold the annual meeting at the same time the State Department holds its annual at Trenton, in January.

A report is being circulated in some quarters that the United States Government is buying honey and paying 15 cts. a pound for the same. Dr. E. F. Phillips, Apiculturist, at Washington, D. C., informs GLEANINGS that he does not know of any branch of the United States Government that is buying honey. Nobody else does, either.

Mr. H. C. Cook, of the Keystone Apiary, Omaha, Neb., made an exhibit at the State Fair which achieved remarkable success. There were four fine exhibits made, but Mr. Cook succeeded in taking 14 first awards and 9 seconds, amounting to \$170 in cash, and three silver trophy cups—one of them the grand championship cup with a \$50 bill in it.

The annual meeting of the Northern Illinois and Southern Wisconsin Beekeepers' Association will be held in the court-house at Freeport, Ill., on Tuesday, Oct. 16, 1917. The secretary of this association is Mr. B. Kennedy, 2507 West State St., Rockford, Ill., of whom particulars may be learned by interested members.

A letter from M. C. Silsbee, dated Sept. 1, Cohocton, N. Y., says that their bee-house, mill, and total contents, were destroyed by fire the previous night with a loss of \$5000, partly insured, and that all orders were burned, and they were left with no record of parties who had ordered supplies.

ON Sunday afternoon, August 19, it was my privilege to listen to a lecture by Dr. Charles E. Barker, at our Medina Chautauqua. It was announced as a lecture; but just now I should call it one of the grandest and most helpful

sermons I ever heard in my life. The subject was, "The finest of the fine arts." The speaker announced at the beginning that he was going to talk on happiness. First, he said happiness depends on obedience to law; and he suggested that the greater part of his audience had already found out that, whenever they told a lie, they felt unhappy—unhappy because they had transgressed a great law. Even a small child, sooner or later, becomes aware of this law. He then went on something as follows:

Most people get the idea that happiness consists of having plenty of money, riding around in automobiles, having nothing to do and plenty of people to wait on them. This is a great mistake. Happiness does not come that way. Every little while some millionaire commits suicide because his great possessions and wealth that he could not use and did not need only made him unhappy. I can say amen to the above. The good doctor told us frankly some of his own experience along that line. One of my daughters said it reminded her of your old friend A. I. Root, the way the doctor confessed some of his sins and shortcomings before that great audience. In some way it came about that he was personal physician to ex-President Taft at the time the latter occupied the presidential chair. Dr. Barker was enabled to give him advice that reduced his weight from 342 to 257 pounds. The president, out of gratitude, made him a present of quite a sum of money; and, more than that, several great millionaires who were clustered around our capital city seemed to decide it would be a great thing to have for *their* family physician the man chosen by the president.

Now, a family physician enjoys privileges in the family and in the home that are seldom accorded anybody else; and the good doctor assured us that the glimpses that he got behind the scenes satisfied him that great wealth, fine clothing, plenty of ser-

Take no thought for the morrow.—MATT. 6:34.

Oh how I love thy law! it is my meditation all the day.—PSALM 119:97.

Inasmuch as ye have done it unto one of the least of these my brethren, ye have done it unto me.—MATT. 25:40.



vants, and nothing to do, do not confer happiness.

At this stage of his talk he said he was going to give us five rules for being happy. Now, I greatly regret that it is out of my power to give to my readers a

glimpse of the way in which he emphasized and enforced and "drove home" his five rules or recipes or secrets, if you choose, for being happy. If Billy Sunday has a greater faculty for driving home his truths and making every man, woman, and child in the audience "sit up and take notice," he is a greater man than I ever gave him credit for being.

Dr. Barker is original. He certainly never copies anybody. It is a wonderful and intense love for humanity—high, low, rich, or poor—that gives him such astonishing power and self-possession in his vehement talk and action. Now, this lecture lasted something like an hour; and it is hard for me in my old age to take in and hold so many exceedingly valuable points. But here comes in what was to me an unexpected help in my old age. One of my grandchildren, Wynne Boyden, the one whom I have mentioned as an "electrical expert," was present. By the way, he and I have of late been having some long talks on electricity, gardening, etc. By my years of experience I often help him in his work; but I think it oftener happens that he, at the age of 17, helps *me* by his ability to comprehend and keep in mind, things in a way that I, away past 70, cannot do; and when I happened to say Sunday evening, "Oh dear me! I am afraid I cannot remember all of those *five* points," he replied at once, "I can give them to you, grandfather." Then he got his pencil and a piece of paper and wrote down the following:

RULES FOR HAPPINESS.

1. Look on the bright side of things—don't worry—worry unfits the mind for the difficulties to be met.
2. Don't envy other people their positions in life; they are no better off than you. Neither money nor poverty can make happiness.
3. Put your whole soul into your work; it is the way to be happy. You may not be satisfied with your job; but while you do it, do it well.
4. Cultivate a kind and cheerful disposition, not merely in society and among strangers, but at home.

Be kind to husbands, wives, and children. The more happiness you give the more you receive.

5. Trust in God—*actually* trust in God as your Father. Don't be a Christian merely in name.

Remember that God knows best; and so if your prayer is not granted, remember that it is all for the best.

No. 1. The doctor said it took him years and *years* to become really master of this matter of worry and borrowing trouble. He said his good father was in the habit of having the "blues," and he had got it into his head that the trouble was inherited. Just as soon as he mentioned it, it occurred to me that *my* father also had spells of borrowing trouble, and sometimes making the whole family of seven children and the good mother feel blue likewise; but, thanks to a kind Providence, my mother, with her faith in her heavenly Father, could *always see sunshine*. In a most emphatic way the doctor declared there is a "silver lining" to every trouble; and the duty we owe to God and to our fellow-men is to keep holding up that bright side with a smiling face.

In regard to the text, "Take no thought for the morrow," the doctor said many good people seem to think this means that we should make no provision for our physical wants, and that "preparedness" is entirely out of place. Nothing of the kind. The Savior only meant that, after having done our level best, and after having asked him for our daily bread, we should forbear worrying or borrowing trouble. Do not cross bridges before you get to them. The whole spirit of the Bible from beginning to end teaches us that we should bestir ourselves and *work*; but after having done all this, *trust God*, and be happy. My old pastor, Rev. A. T. Reed, said we are enjoined against being *over-anxious*—to take a hopeful view of the future, and remember that it is a loving Father who holds even the winds in the hollow of his hand.

No. 2. Do not get the idea that other people are more favored than you are. You are probably just where God wants you to be. Then he told us of a celebrated picture that carried a lesson with it. It represented a simple landscape with a rude fence, not very high, across the middle of it. On each side of the fence was a donkey; but each donkey was represented as leaning over the low fence to pick grass *on the other side*. Do you see the moral, my good friends? Instead of being content these poor stupid beasts each imagined the grass over the fence was better, or that there was more of it, than in his own dooryard. The title of the picture was, "The Two Silly Asses." My good friend, look back over your life and ask yourself the question if

you have not been at some former time, or if you are not just now, deserving the title given to the poor dumb brutes.

No. 3. If something worries you that you cannot get out of your mind, pitch into the work that lies before you. Do it with all your might. Put your whole mind and soul to the task that lies before you. Do not look over the fence. Do not covet your neighbor's job nor long for something easier, but stick to your knitting. It may seem a dull and disagreeable task for a while; but keep in mind that beautiful text, "Be not weary in well doing, for in due time we shall reap if we faint not."

Our Chautauqua gave us another grand orator. It was a woman, Mrs. Allen, who writes about health, housekeeping, etc., in the women's magazines. When I was talking with *her* about sticking to our job I quoted the above text about not becoming weary, etc. She said, "Mr. Root, that is the trouble with a world of people. They do not stick to their job long enough, and they do not really get down to the 'Root' of the matter." Just then I felt glad to think that *my* name was Root.

No. 4. I believe No. 4 hit me a harder clip than any other one. He pointed his finger in different directions over the audience as he sent home his wholesome and vehement words to the husbands and wives of the audience. In his business as a physician he said he often became almost a member of some households; and he found that some husbands would, even in his presence, scold and nag the good wife, and let it go without an apology. He gave one illustration that sent a chill down my back. A certain man was in the habit of scolding and nagging the poor patient wife as well as the rest of the household, to such an extent that he did not scruple to complain and criticise even in the presence of the doctor. Finally the patient wife died. Then, but not before, the man awoke and remembered his sins. Nothing could console him. He said to the doctor, after she was dead, "Oh! what would I give to be able to call her back and tell her how I regret my thoughtless words! Doctor, I would give everything I have in this world to be able to see her and talk to her just a few brief moments." Then he added something the doctor said he would never tell out to the world were it not for the fact that it would help a lot of husbands whose wives are still living. This poor man, in his paroxysms of grief, said:

"Doctor, you heard me make such and such expressions to my poor suffering wife. You heard me at times go on in this way until the poor woman was in tears."

The doctor was compelled to assent that he did remember; and he also added that he explained to his friend that it was often a question as to whether it would do good or harm to venture even a protest. And then came the reply. Now listen, dear reader, and remember. The poor bereaved man said something as follows:

"Doctor, you should have rebuked me fairly and squarely on the spot; and if words would not have been sufficient you should have planted your fist between my eyes and pounded some sense into my poor befuddled brain."

I want to confess, dear reader, that of late—yes, for a year or more past—when there has been some little disagreement between Mrs. Root and myself, when hasty words have come into my mind, or, perhaps I had better say, words prompted by Satan, I have had the good sense to say to myself, "The dear woman is now getting closer and closer to eighty years. If she should be taken away first, is it possible that I may recall what I am about to say?" May the Lord be praised I did not say it; but I feel guilty to think of anything so unkind or lacking in gentleness even coming into my mind toward the dear companion who has set an example before me and led me out of countless troubles in the years we have passed together.

Dr. Barker said if we wanted to be happy, the shortest cut toward real genuine happiness and satisfaction is to go a little out of the way to give encouraging words or a helping hand to somebody else. It does not matter particularly who it is. Give the whole wide world to understand that you are a friend to every man, woman, and child, no matter in what guise or what sort of clothing or circumstances you find them. Make them smile if you can, and give them a lift if they need a lift; and keep on so doing. If you lose some treasure that you might have obtained here on earth by rushing off to business, you will not only find yourself happy, but in the great future you may find also treasures laid up in heaven. Then the speaker quoted in a most eloquent way that beautiful passage in the 25th chapter of Matthew, commencing at the 31st verse. At the close he laid particular emphasis on the passage, "Inasmuch as ye have done it unto one of the least of these my brethren, ye have done it unto me."

No. 5. This was the closing secret of happiness. When the doctor started out I could not make up my mind clearly as to whether he was a professing Christian or not; but his quotation of beautiful texts to clinch some point he had made caused me

more and more to decide that, even if he was a doctor instead of a preacher, his talk would be of inestimable value to many preachers as well as to A. I. Root.

Dr. Barker said in closing that the dear Savior, over and over again (I do not know but it was a hundred times or more), emphasized the thought expressed in the beginning of that wonderful prayer, "Our Father who art in heaven;" and that we should all keep the thought constantly in mind that God is our Father—the Father of every man, woman, and child who looks up to him and calls him Father. He reminded us that we have a fashion of praying for things that we think are needed to make us happy. Sometimes the prayer has not been answered, and we feel sore about it. Doubtless many in that audience, he said, had persisted and insisted on getting the thing prayed for, even if the means used in getting it were not exactly fair. And then he added, "You can doubtless remember also that the thing you coveted did you harm instead of good. God knew best."

"CAST THY BREAD UPON THE WATERS."

Mr. Root—I have just read Our Homes in this month's GLEANINGS. "Seek ye first the kingdom of God" is part of your text. That reminded me of something that I had better attend to before I forgot.

You will remember that I wrote you a letter something over a year ago—I think it is quite a bit over a year, but I am forgetful, and haven't time now to look it up. I wrote you something about my printing-shop, bees, and about our gospel-tract work, etc. You printed my letter in GLEANINGS, and remarked that the readers could get my little calendar by sending for it, and added that they should enclose a stamp or something more than a stamp if they felt able to do so. Well, what made me think of that incident when I read this month's Homes is this: The motto or text at the top of this year's calendar is that very text; and in answer to your remark in GLEANINGS, a man in or near Modesta, California, sent us some stamps (I think 20 cents, if I remember right), and wanted calendars, etc. He also asked me to mail a calendar to a person somewhere in California, giving name and address. We mailed the literature as requested, and now comes the part that is of most interest to you. Not many months after that he wrote that the calendar which was sent to his brother-in-law was the means in God's hands of that man's salvation, especially the text "Seek ye first the kingdom of God," and also the one for July, "Be thou faithful unto death." This man further wrote that his brother-in-law had been a very profane man, and not very long after his conversion died in the hope of salvation.

How wonderful the dealings of God! That notice or remark in GLEANINGS caused this man to help us with stamps. His request for a calendar sent to his brother-in-law brought the mentioned text under his eyes, so that God could use it to his conversion. Some very insignificant things, with God's help and blessing, may accomplish great things. To God be all the glory.

I would just like to mention that our 1918 calendar will soon be ready for mailing. The first text is, "The coming of the Lord draweth nigh." The

calendar will be sent out free as usual to all who apply for it as fast as we can mail and as stamps are forthcoming. If you see fit you can again mention it in GLEANINGS. Just say it in your own words as you see fit. The most important part is to get our name and address correct so that nobody will send to wrong place.

S. E. ROTH.

Gospel Tract Mission, Rt. 3, Woodburn, Oregon.

Along with the above came a very helpful tract entitled "Suppose," and on the margin friend R. has written with a typewriter, "Who are *you* working for?" In regard to the letter above, again and again thru my busy life I have seen cases such as mentioned. Some little thing done on the impulse of the moment, and quickly forgotten, has brought forth jewels into God's kingdom.

SELLING HONEY ON SUNDAY, AND SOME OTHER THINGS.

And he said unto them, Verily I say unto you, there is no man that hath left house, or parents, or brethren, or wife, or children, for the kingdom of God's sake, who shall not receive manifold more in this present time, and in the world to come life everlasting.—LUKE 18:29, 30.

Mr. Root:—I enjoyed reading your Home talk in GLEANINGS for January. I was reminded of the Home talks I used to read in GLEANINGS thirty years ago, and how much good I derived from the same—one of them especially, when I was blind with sore eyes. My mother read it to me. It was about every one bearing his own share of the sorrows. It caused me to be more patient, and trust our heavenly Father more. I hope you may be spared many years, as your light is yet shining brightly for our Father's cause.

There is a piece written by the editor in regard to selling honey at the door. The largest sales seem to be on Sunday. That does not appeal to me. Perhaps one might have a sign to turn around on Saturday night. We did that with a rent sign we had in front of the house. I do like to talk bees to people; but hardly would like to do it on Sunday for the purpose of financial gain. Our influence counts much with others. There is quite a good deal of labor done here on Sunday; but one man told me that when he had tried resting his teams and men on that day they had accomplished more work; and a young man I know, a carpenter, when Saturday night came said he would not work next day, and all the rest of the twelve workmen did the same by his example. We poor mortals need every seventh day to get spiritual strength to live right and do good to others. That is my belief.

J. F. VANPETTEN.
Long Beach, Cal., Jan. 20.

My good friend, I am glad you make mention of taking down the sign "Honey for Sale" or fixing it so it could be easily turned around—that is, at night or after dark. Now, while we are trying to remember the Sabbath day to keep it holy, we should also use our best judgment and try to avoid antagonizing the people who may not think as we do. People often come to our place on Sunday afternoon, sometimes just at church time, and want to look over the premises. This is especially the case since automobiles have become so common, and the city people, many of them, choose Sunday

to go out into the country or go visiting. My judgment is, after praying over the matter, that we should be a little careful about laying down cast-iron rules. I would by all means advise either taking the sign down or having the back side read, as we often see in many public places, "No visitors received on Sunday," or, if you choose, have the back of the sign read, "No honey for sale on Sunday." But suppose your caller did not notice the sign. If the honey is already put up in tumblers or jars I think I would hand him a jar; and if he is an acquaintance I would ask him to pay for it some other time, as you do not believe in doing business on Sunday. Try to preserve friendly relations with the caller, even tho you deviate a little, in order that he may not think you a "fanatic" on this question.

With the trying weather we have had of late, quite a number of farmers in our county have been out cutting their grain on Sunday. There will be, of course, differences of opinion in regard to this matter; but I feel quite sure, as you say, that the farmer or anybody else who tries to remember the Sabbath day and keep it holy will in the end come out ahead.

STARTING WITH SAWDUST AND ENDING WITH GOLD.

I have many times been pleased by original suggestions in the *Western Christian Union*, of Booneville, Mo. Below is a sample of its short editorials:

The narrow way is not a mere sawdust trail all the way. It may start in a sawdust trail, but it should end in streets paved with gold.

THE CHICKEN BUSINESS IN ARIZONA.

Out of our family of seven boys and girls, I have only one brother left. From a letter received from him I clip the following:

It does not cost us much to live here. We have our garden, and milk, and butter, and chickens. Nellie has one hen that brought out 18 chicks. She weaned them and came off with 16 more the next time. They are weaned, and she is laying again now. But we will not raise any more this year.

Pima, Arizona, July 9.

J. H. Root.

It seems a little strange and perhaps somewhat discouraging to find that a hen which goes away by herself and steals her nest makes a better record than hens that are helped by even an expert poultry-keeper. As I take it, in the above case the hen stole her nest both times. If one could succeed in making a whole flock of biddies do as well, how easy a matter it would be to get started in the poultry business!

HIGH - PRESSURE GARDENING

SEED POTATOES BY MAIL.

It is getting to be time, good friends, to think about making preparations for potatoes for planting next season; and our friends down in Florida, many of them, are preparing to plant at least a few potatoes about the middle of this month of September. We do not know what seed potatoes are going to cost, but they will probably be pretty well up. Some time about the last of March I saw the following in one of our seed catalogs:

POTATO EYES BY MAIL—POSTPAID.

For several years we have been furnishing our customers good sound potato eyes by mail. It saves high freight and allows you to get a start of new varieties for a mere nothing. These potato eyes give very best of satisfaction. Remember they come by mail postpaid, and sure to grow. Try our new kinds. At a very small expense you can grow an experiment patch for exhibition. It is very interesting and profitable; 75 eyes should produce a bushel or more of good sound potatoes any variety.

In order to have some early potatoes in Ohio I sent \$1.00 for 125 eyes as above. My daughter here in Medina put them in her greenhouse about the first of April in a box of very rich compost, mostly well-rotted stable manure. When I got back about the first of May there were 75 pretty good strong plants. I gave them good care and planted them outdoors about the middle of May in good rich ground reinforced with some fine old stable manure. Today, August 11, I have just finished digging, and have got a good half-bushel of nice Six Weeks potatoes. Let us now go back a little.

About April 1, I gave another dollar for a peck of Early Ohio potatoes. These were bedded in good rich soil in the sun, protected nights until they made good strong shoots and roots, as I described repeatedly during the past winter; and this peck of potatoes were cut to one or two eyes, and planted in the open ground about the same time I planted my Six Weeks potatoes; but in spite of everything I could do the potatoes from eyes that came by mail never grew near as thrifty and strong as the Early Ohio that had a good chunk of potato for each plant. The trouble with the potato eyes by mail was that they were cut too small—that is, there was but very little potato attached to each eye. Some of them were not much larger than a nickel (potato, eye, and all). May be the largest of them was as large as a quarter; but they were sliced very thin. My opinion is that unless there is a pretty good chunk of potato with each eye, nothing can well make up for it.

It is like bringing up babies on some substitute for mother's milk. Nature's provisions for the young animal or for the young plant cannot be very much improved on. Now for the Early Ohios.

From the one peck I got about 10 pecks of very nice potatoes, most of them large. By the way, a point comes in right here about Terry's plan of cutting to one eye. The Six Weeks potatoes were, of course, one eye. As a rule there was just one stalk and no more, and the potatoes are almost invariably of good size—almost none of them small. In several cases I found just one good large potato in a hill. The one eye and one stalk had given all its energies to the support of just the one potato. If you wish to avoid having little potatoes, follow Terry, cutting to one eye; and if you wish to go to the trouble you can pull out all stalks but one. Some of our Early Ohios are almost too large. Some writer years ago said that 20 bushels of potatoes for one planted was a very good crop; and that is exactly one-half what I got from my Early Ohios—10 pecks from the one peck planted. Perhaps I should add that a severe drouth, just as the potatoes were beginning to mature, probably cut short the crop of both kinds. The Six Weeks potato is probably an improved variety of the Early Ohio. It is a little earlier, looks very much like the Early Ohio, and we think, as a rule, it is of rather better quality.

RHE "HIGH COST OF LIVING"—SOMETHING MORE IN REGARD TO IT.

The following, from a good Canadian friend, meets my hearty indorsement:

THIS AFFECTS YOUR POCKETBOOK.

I have no sympathy with the continual cry about the "high cost of living." If we would take a few moments to consider and change our ways, we should soon have this vexed question solved. We throw away or feed to the pigs much valuable food that should be used on the family table—for instance, milk, shorts, bran, and potato peelings. Science plainly proves that a quart of milk contains as much human nourishment as two pounds of chicken or two pounds of beefsteak (prevailing prices here, milk .0 cents per quart, chicken 28 cents per pound, and beefsteak 30 cents per pound). Again, take the skim milk that is considered almost worthless. We are taught by science that it contains the bone and muscle forming elements; yet how few use a jug of milk on the meal-table instead of the nerve-wrecking tea and coffee! The milk is thrown to the pigs and the tea given to the children, whereas it should be *vice versa*. The bran and shorts—the muscle and bone forming elements—are separated from the wheat, and the starchy part ground into flour. The former is fed to the cattle, the latter to the family; whereas the whole wheat should be ground and used for bread and porridge, etc.

Every farmer could, as easily as not, have his 5 or 10 hives of bees, and have from 500 to 1000 pounds of honey laid by in the pantry to be used in a great variety of ways instead of laying out the same amount of hard cash for sugar.

Honey can take the place of sugar in making ice-cream, and is superior. It is excellent in making wedding cakes, etc., keeping them moist and free from mould and mustiness; and here is a hint to those sending cookery to the boys in France: If you substitute honey for sugar, and use half the eggs and milk your recipe calls for, you may rest satisfied that it will neither mould nor dry out in transit. We have had very satisfactory reports of honey cookery sent to friends in the trenches. We prefer soda and cream of tartar to baking-powder in honey cookery. If you use a baking-powder recipe, add a pinch of soda. Forty years ago honey sold at 40 cents per pound, and butter at 10; but now honey sells at 15 cents per pound, and butter at 50; so it doesn't require much argument to prove which is cheaper.

Once a year we are taught by government experts that the better part of the potato lies next to the skin, so that those who take off a thick peeling throw to the pigs or on the garbage-heap the better part of the potato. Is it any wonder the human family has poor bones, poor teeth, poor health, and a poor pocketbook? Carlyle well said that "only one person in five thousand thinks."

The women of Ontario, Canada, were granted their franchise on Feb. 14, 1917.

JAMES M. MUNRO.

Slate River Valley, Ontario, March 3, 1917.

It seems to me that every family—especially families of moderate means—should have some sort of little mill (a coffee-mill if they cannot do any better) and grind their own wheat. A recent government bulletin declared that some of the wheat preparations we buy at the groceries cost as high as 48 cents per pound; and I greatly fear it is oftentimes poor hard-working people who pay this enormous price when they could by grinding their own wheat get it for less than four cents a pound. Just think of it! You are paying twelve times as much for your "daily bread" as you would have to pay if you ground the wheat in your own home. Better still, have a little patch and grow your own wheat. Have it nice and fresh. At present prices I do believe it would pay to have a little patch of wheat in the back yard, cared for with a little hand cultivator as you raise other garden stuff. You get a *nicer, plumper* wheat, and have it "fresh from the garden."

TWENTY-FIVE DOLLARS A DAY ON YOUR FARM.

Mind you, dear friends, I do not say you can make that *right along*, but I do think that many of you might make it for a day or half a day if you get right at it in selecting your seed corn for next year. See the clipping below from the *Practical Farmer*:

\$25 PER DAY—CAN YOU EARN MORE?

If you would like to earn from twenty-five to fifty dollars a day, it cannot be done easier at this time

of the year than by going into your cornfield and selecting seed for next year's crop. By practicing this method of seed-corn selection it is possible to increase your acre yield the following year five bushels over your average; so it can be readily seen, with corn at its present price, time could not be better spent. The great advantage in this practice is that the grower is able to get seed that he knows has matured in his normal growing season.

For several years past I have gone out into our cornfield in September and selected nice ears, as I have previously described, from the first that were fully matured. As a result we have corn that has escaped frost when most of the corn in this region is often badly caught. Another thing, by making a germination test of each ear, there are so few stalks missing this season that we did not "plant over" at all. Almost *every kernel* planted grew.

THE CHAYOTE IN MEXICO; SOMETHING FURTHER IN REGARD TO IT.

We give the following kind letter just about as our good friend wrote it. I am sure it will be read with great interest, not only because of what the writer says about the chayote, but because of the quaint way in which one not familiar with our language expresses himself. It does me a lot of good to get such letters, because it brings so vividly to mind the time I made that bicycle trip down in Cuba, when I spoke only English, and the different friends, beekeepers and all, spoke only Spanish.

Dear Mr. Root:—Four months ago I took a trial subscription at GLEANINGS. I am much pleased with the same, and am in search of a paper dollar to send to you in order to secure an annual subscription from October first. We have not yet postoffice money orders, and the "dollars" here are very scarce; but I think to find one if I search for it.

On page 641, GLEANINGS for August, I read what you say about the chayote, a very common vegetable in central and south Mexico. Here the chayote is found in every house, and in many gardens there are a great number of them. They have flowers in September and October, and the fruits are ready in December and January.

All that you say about the chayote is true and good, but you must add the following:

1. The flowers of the chayote are melliferous. I have seen many bees in the plantations near the Experimental Apiary in Mexico City, and here in the state of Michoacan. A good crop in my apiary is secured by the same.

There is also here a very melliferous plant named "chayotille," but this plant is a nuisance because it gives no fruit and kills the plants near by.

2. The roots of the chayote may be eaten also. Here after the second year of production the gardeners take out the roots in the following manner: A meter or so is taken from plant No. 1. Then they make an excavation in No. 2 in search of the roots, which are very capricious in form, and of a weight from 6 to 12 pounds. The second half, No. 3, is for the next year, and I must add that these tuberous roots are not necessary for the

life of the plant, which grows always, sometimes before the old crop is over. The roots are only another crop; and if they are not taken away from the earth they dry in it and disappear, leaving only the exterior cover. The tall roots are sometimes fibrous, but not all. The small ones are better; and all, after being cooked in boiling water, are very good in beaten eggs. Here the poor eat them alone with some salt, like potatoes.

I hope, Mr. Root, that you may make out to read my letter in such a bad English. I don't very well know how to write it; but if you wish you can correct my words and take from them some information for your readers about the chayote which I knew in France ten years ago. At home, near Marseilles, my father had some plants; but the utility of the roots and flowers was unknown.

Uruapan, Mexico, Aug. 24. P. PROVENSAL.



TEMPERANCE

Wherefore do ye spend money for that which is not bread? and your labor for that which satisfieth not?—ISAIAH 55:2.

Lay not up for yourselves treasures on earth, where moth and rust doth corrupt, and where thieves break through and steal.—MATT. 6:19.

My good friends, just about a year ago I exhorted (in my humble way) every voter in Ohio to be on hand at the coming election, and not only to vote dry but to take some of his time, and use all his influence to induce every other voter to vote dry also. You know how it turned out. The great wicked city of Cincinnati, with its millions of money (and lack of conscience) overpowered us. But they would not have overpowered us had every man voted who could vote outside of the city of Cincinnati. I have not the figures here; but the *American Issue* gave the number who neglected to go to the polls and did not vote at all. And even taking it for granted that a large part of them might have voted wet, there were still enough, without question, to defeat the bum element of Cincinnati and make Ohio dry.

Well, during the past year tremendous progress has been made for prohibition. It would take a whole page to enumerate it all. Not only the United States but the whole wide world has been rousing up from its lethargy. The tremendous demand for "efficiency," not only in war but in the factory, on the farm, and everywhere else (in consequence of the terrible war), has thrown a searchlight so strongly on the results of drink—yes, the results of even the very moderate use of intoxicants—that we may say there has been a great advance toward prohibition. Just now we are rejoicing that the distillers are cut off by federal law. Not only that, a similar law cuts off "Scotch whisky" and every other kind of whisky that has heretofore been shipped into the United States by the carload and shipload. May God be praised for this tremendous triumph of righteousness over iniquity. It is true that the great stock of liquors in bond may be used unless

the President shall demand that it be converted into alcohol for fuel and war munitions. But already the price of a drink of whisky has gone away up, and bids fair to go higher. Of course, there are those who will have it, no matter what the price may be, but they are fast becoming fewer and fewer.

Now, this issue of GLEANINGS will probably be my last chance to urge the voters of Ohio to rouse up, put aside business, care of crops, or anything else, in order to get in a vote to make Ohio dry. As I have said before, warn your neighbors and impress on them the necessity of being ready and on hand on election day. We must work and pray as we never did before; for as Ohio goes in the coming election, it is quite probable that the whole United States will go; and to a certain extent *the whole wide world* is just now watching our nation, and taking example from us. Of course, we feel sad to think the brewers—at least for the present—can go on with their work of taking the grains that are sorely needed for food to make that which is the greatest *enemy* of food that the prince of darkness ever invented.

Below is something I just clipped from the *American Issue*, which they credit to the *Herald and Presbyter*; and altho I do not as a rule approve of sarcasm, I think the sarcasm in the following article hits the very spot that needs hitting a tremendous blow as nothing else could do. Read it over and over. Read it to your wife, and then read it to the voters whom you know, that might possibly be induced to vote wet. May God speed the little clipping.

THE MOTHERS AND THE BREWERS.

Upon the women in their homes is falling the burden of conserving the food supplies of the nation. They are urged and exhorted and commanded to slave and save, and scrimp and take care of every crumb and tuber and leaf and shred of food. Yes, please you, this is well, and women will do their duty, with aching back and bleeding fingers. Mothers, with their boys in the field and their

hearts aching for them as they pray, will darn and delve, will knit and cook, that the country may be saved. Yet, all the same, that bloated brewer, avaricious and rapacious, will go on manufacturing his disease-producing, deadly poisons out of the precious grain that would make eleven million loaves of bread a day. What matters it that millions of people are perishing for that food, and that we and our allies shall need every grain that can be grown, these conscienceless marauders continue to ravage the granaries of the land.

Grind down the women. Lash them to their toil. They are only women. They are the worthless mothers of the soldiers. They are the insignificant toilers of the households. Lay on the stripes and goad them to their tasks in the name of patriotism. And let these Teuton brewers commandeer the grain and make the poison that shall break down the finance, the efficiency, and the food supply of the nation.

Common sense and a lofty spirit would demand that this abject course shall terminate. Let the women have consideration, and let the enemies of our nation and our race be taught that they cannot have their beastly, piratical, highway-robbing privilege accorded to them any longer. In the name of all that is hopeful and good, exit the scarlet woman and the brewer; enter the Mother.

Here is another clipping, from the *Sunday School Times*. It illustrates the stranglehold that the brewers seem to have over in England on the honest industries of the nation.

SUGAR ONLY FOR THE BREWERS!

No one save Mr. Arthur Mee, of the London *Daily Chronicle*, author of "Defeat," could have followed that warning speech by the editor of *The Spectator*. Said Mr. Mee:

"All over England you hear this cry for prohibition. It comes from the heart of a nation fighting for its life, with the wolf almost knocking at the door. We have lived thru three red years of matchless courage and sacrifice, to see our Government, still as of old, worshipping our beer gods, crowning our beer barons, rolling 26,000,000 barrels of beer thru the streets of England while our people sit by their fires and wonder where their food is coming from."

Mr. Mee excoriated Lord Devenport, the then Food Controller, who has put the British nation on its honor not to eat so much.

"We must eat a little less," he declared, "that other people may drink more."

It was a tragic moment when Mr. Mee told the story of a contractor who, feeding 40,000 working people every day, ordered sugar for them; and, sending to the dock for a delivery order for the sugar, received instead a letter from the Port of London Authority which said:

Delivery of sugar stopped by Food Controller unless for brewers!

There were incredulous cries of "No! no!" from his hearers when the newspaper man held up the letter written on the official note paper of the Port of London Authority, and then hot cries of "Shame!" followed.

Not many days have passed since this mass meeting issued its challenge, but they have seen the retirement of Lord Devenport, and one important change is following fast upon the heels of another.

WILL ABSORB ALL MEN.

We find the following in the *American Issue*, which they clip from the *Chicago Tribune*:

"Peoria's manufacturers will snap up every available man Monday morning," said a conspicuous Peoria, Ill., business man. "Between 1500 and 2000 men will be put out of employment in the distilleries, but there is a place for every one of them in the tractor factories, the implement works, and in other Peoria industries. We can use every ounce of coal, and are glad to get it, that the distilleries have been requiring. Industrially, Peoria will never know the distilleries have been closed."

MAY GOD BE PRAISED THAT WE HAVE GOT SO FAR.

How does this suit you, which we clip from the *Jacksonville Times-Union*?

No more foreign liquors can be imported into this country, and no more domestic liquors made—so there you are.

NOT ONLY FOOD BUT "FUEL" ALSO.

See the following from *The National Advocate*:

BEER AND THE PRICE OF COAL.

Writing in *The Outlook* on "Prohibition and the Price of Coal," Lewis E. Theiss, of Munsey, Pa., quoted the Rev. H. N. Cameron, of Latrobe, Pa., as having said recently, in a letter to Mr. Herbert Hoover:

"I have lived all my life in western Pennsylvania. I worked for seven years at the rolls, and have seen the effect of beer on output; and I know it is true, as J. D. A. Morrow, of the Pittsburg Coal Producers' Association, declared before the Interstate Commerce Commission yesterday, that the production of coal in the Pittsburg district alone would be increased 5,000,000 tons if strong drink were eliminated. And beer, may I repeat, the so-called light drink, causes more inefficiency in men and prevents more space in freight trains than whisky."

And then Mr. Theiss went on to remark:

"In fact, all testimony on the subject—from factory, mine, and shop—tells the same story. Take away drink, and the efficiency of the workingman increases amazingly. The simplest, the surest, the only certain way of increasing coal production at this time is by prohibiting drink. Unless we do that our citizens will suffer from cold, our factories will be hampered for lack of fuel, our production of war material will be hindered, the war will be lengthened, and thousands of lives will be lost needlessly. If we want cheaper coal during the war, we must take, as a war measure, the one and only step that will surely increase coal production."

TOBACCO AND CIGARETTES; SOMETHING ABOUT CIGARETTES IN CHINA.

Last Sunday a missionary from China gave us a talk in our church. He said the American Tobacco Company was just now sending cigarettes to be given away in China by the carload. He said a wagonload would be carried into a town and the agent would distribute them among men, women, and children, without regard to age or anything else. Then they put up posters all over the Chinese town recommending cigarettes. Our friends are probably well aware of what China has recently done to get rid of opium. Let us not only do everything in our power to help China to treat the cigar-

ette traffic as she did those who persisted in violating the laws against the opium traffic. The missionary told us they were doing everything in their power to warn the Chinese, especially the schoolchildren, against taking and using cigarettes. They posted printed handbills right over the bills put up by the tobacco company; and when the missionary left, only a few weeks ago, the tobacco people were trying to make out that it was against the Chinese laws to cover up or tear down their posters. The agents of the cigarette company have a slogan something like this: "Among the four hundred millions of men, women, and children in China, we want four hundred million to be cigarette-users."

It may not be known to our Ohio people that we have strict laws here that forbid any such work in Ohio. Two years ago we printed a lot of leaflets giving a copy of our Ohio law. The heading of the leaflet reads as follows:

"Shall the State of Ohio continue the

business of growing a crop of fools, idiots, and imbeciles?"

These leaflets will be mailed free of charge to any one who will see to distributing them judiciously.

Whatsoever a man soweth, that shall he also reap.

We clip as follows from *American Issue: WHISKEY-SOAKED KENTUCKY NOW RAISING FUNDS TO TEACH HER SOLDIERS TO READ AND WRITE.*

A Columbus man was in Louisville, Ky., the other day. He saw the city placarded with vivid posters, on which was printed,

"Fifteen regiments of our Kentucky soldiers cannot read or write; must be taught before they go into the trenches. Will you assist?"

"Why don't you tear down those posters?" asked the Columbus citizen of a gentleman, "for what they say cannot be true."

"Unfortunately, they are true," was the response. "We are raising money to send teachers to the camps to teach the boys to read and write. The trouble is, Kentucky has boasted for years of her production of whisky, has talked about the millions invested in distilleries, but she has neglected the education of her people. We have had whisky and distilleries, and now we have a state hopelessly in debt and thousands of her people illiterate."

Sounds different from Kansas, doesn't it?



HEALTH NOTES

"VICTUALS AND DRINK" — ESPECIALLY THE MATTER OF DRINK.

I hold in my hand Farmer's Bulletin No. 817, entitled "How to Select Food." This bulletin of 22 pages was written by two bright and able women. We have space to make only a couple of extracts. The first is in regard to economy in purchasing.

Prepared cereals differ so much in form that their appearance gives little idea of the amount of nourishment they yield. For instance, the amount of flour which will fill a cup weighs 4 ounces; that of rice, 8 or 9 ounces; and that of flaked breakfast cereal, hardly half an ounce; and it is this weight rather than bulk or volume which indicates food value. Such differences in weight and volume must be remembered by those who wish to buy their food as cheaply as possible. Some breakfast foods retail at 48 cents a pound (15 cents for a five-ounce package); others cost 5 or 6 cents a pound. The cheapest ones are usually those sold in bulk. The housekeeper, by grinding her own wheat, can get a cereal breakfast food for a still smaller sum. When wheat sells for \$2 a bushel the cost per pound is between 3 and 4 cents. This wheat can be prepared by washing, drying, and then grinding in an ordinary coffee-mill.

You will notice, friends, that this places emphasis on what I have so often talked about. Just at present the Root neighborhood are living largely on wheat grown on our own ground. Instead of using a common coffee-mill we have a little mill that has been referred to already on these pages, costing four or five dollars. Huber rigged

it so as to be run by a little cheap electric motor, so all you have to do is to pour your clean wheat into the hopper, turn the switch, and then go for your "grist" when you get ready. While this cracked wheat costs only three or four cents a pound, as stated above I greatly prefer it to any other cereal, or any other flour that can be purchased at any price. Just think of the short cut between producer and consumer, by growing your own wheat and grinding it in your own little mill! You need not take my word for it—just weigh the stuff you buy after passing thru the hands of several middlemen and contrast it with the cost of wheat prepared as above.

In regard to the method of cooking, let me make another extract from this bulletin:

There are several practical points to remember in cooking cereals. One is that there is more danger of not cooking them enough than of cooking them too much. Uncooked cereal preparations, like cracked wheat and coarse samp, need several hours' cooking, and are often improved by being left on the back of the stove or in the fireless cooker overnight. Cereals partially cooked at the factory, such as the rolled or fine granular preparations, should be cooked fully as long as the directions on the package suggest.

You will notice by the above they recommend several hours' cooking. With a gas-stove such as we use, this is easily man-

aged. Enough water is added so that when it is cold the cooked wheat can be readily cut in slices, to be warmed up in the oven at mealtime. I always want with it some good butter, cream, and a teacupful of milk right by my plate. Now, if there is any place where good honey just "hits the spot," it is with butter and cream on this cracked wheat with some cold milk to drink. If you are still so fortunate as to have some maple sugar or thick maple molasses, many of you will prefer it to the honey unless the honey is very thick and of extra-fine quality. I do not know of any better or more sensible remedy for constipation than the above cracked wheat. For this purpose the bran should be left in. If you wish to make hot biscuit to go with your honey, perhaps it would be well to sift out the coarser particles.

By the way, we have been urged repeatedly to use corn instead of wheat, on the ground of economy; and you can, it is true, use corn in the same way. Popcorn makes a delightful dish ground and treated as above. But just now our daily papers are telling us that corn and wheat are very nearly the same price—\$2.00 a bushel. When this is the case I am sure the wheat furnishes more nutriment.

Now for the drink part of my talk. I have already suggested milk; and I use this in place of either tea or coffee, and have done so for years. Of course, I drink water between meals, or whenever I am thirsty outside of mealtime. What suggested to me the matter of the water we drink is a sad letter that has just come to hand. One of Mrs. Root's nearest friends, and I think I might say one of the dearest ones, has just lost her life. She had been in feeble health for some time; but recently her husband, like thousands of other people wanting a home, moved on to a place out in the woods. I think the good woman told Mrs. Root there was a beautiful spring on the place. Now, I am not sure that after moving out in the woods they got their water from this spring, but it would seem so. In a letter written to Mrs. Root by one of the neighbors occurs this sentence:

"The doctor said it was the water they drank that caused their sickness. All the children were sick, but are better now."

This reminds me that for almost all my life I have been troubled more or less with what they used to call "summer complaint;" and it does not always occur in summer either. If I happen to go away from home and drink freely of some water I am unused to, this old chronic trouble gets started, and sometimes it takes a week and may be a month to get straightened out again.

Hard water from a well is almost sure to start the trouble; and therefore I have insisted on getting rain water when I happened to be where I could not get distilled water, or water, say, from soft-water springs that has been abundantly tested. People used to think that water from a running spring is always the best in the world. Well, this is, perhaps, generally true, altho sometimes spring water as well as well water contains minerals that are very harmful to many people. If you have a slate roof to catch the rain water, and it flows thru a filter into a clean cistern, you are probably all right. But I have for years found it safer to have the cistern water boiled, both here in Medina and in my Florida home. Here in Medina we have a slate roof, and about as good a cistern as can be made. But coal smoke from our factory and from the locomotives near by, besides dust from the well-traveled road right in front of our house getting on the roof, renders the water more or less impure. Boiling kills all the germs, and precipitates considerable of the mineral matter. I think it is best *freshly* boiled, and then keep it in a glass fruit-jar or in some other covered receptacle. Altho we have a refrigerator, I have found by repeated tests that ice-cold water does not work well with *my* digestive apparatus. When we have cool nights the water is always sufficiently cool for my taste and health.

Now, friends, please do not get the impression that the water from springs or any other source is worse in Florida than in other places. I believe the health departments, not only of Ohio but of other states and the large cities, decide almost to a unit that the water that has been passed upon and pronounced good in our large towns and cities is safer than the water from wells or even springs, as a rule.

Where large numbers of people have been getting their water for years past at a particular spring, and found it wholesome, it is probably all right, and the same with wells; but everybody should be careful about drinking water from old *unused* wells. Where water is drawn every day (the larger the quantity the better) the well is almost the same as a running spring; and running water is always better than standing water.

In going into a new locality people should be especially careful about drinking water from either well or spring until it has been examined and pronounced good, or has been proven to contain no deleterious matter. Most wells or springs are, of course, liable to contamination from surface water, espe-

cially where there are many homes grouped together. Having a spring or well in proximity to stables, pigpens, or old-fashioned outdoor closets, has been thrashed over so much I hardly need mention it.

In conclusion, dear friends, if you have or have had any such troubles as I have mentioned, be very careful about your drinking water. It will not do any harm to boil it, and it may be the saving of life.

By the way, I forgot to mention that my old physician, Dr. Salisbury, recommended drinking boiled water while it is about as hot as you can bear it. Many

times when my mouth tastes bad, and I feel symptoms of my old trouble, a teacupful of boiling water poured a little at a time into a saucer, and sipped slowly while it is about as hot as I can bear it, sweetens up my stomach and wards off the trouble.

My long-time friend and stenographer, W. P. Root, adds that he agrees with me exactly in all the above, except that he uses rye in place of wheat. Rye is also mentioned in the bulletin I have referred to, and is usually quite a little cheaper than wheat; and I would suggest rye and other grains for a change used in a simliar way.

WHO'S WHO IN APICULTURE

State	Beekeeping taught in Agr. College			State Inspector or Deputy Name	Address	Sec. or Pres. Name	State Ass'n Address
	Net Weight Law?	Poul brood Law?					
Alabama	Yes	Yes	Yes	J. P. Ivy	Phoenix	Geo. M. Frizzell	Tempe
Arizona	Yes	Yes	Yes	County System		J. L. Pelham	Hutchinson (Ark. Valley Bk. Assn.)
Arkansas						F. Fay Lewis . . . (No.)	Oak Park
California	Yes	Yes	Yes	Wesley Foster	Boulder	M. C. Richter	Modesta
Colorado			Yes	H. W. Coley	Westport	S. Francis	Longmont
Connecticut			Yes	A. W. Yates	Hartford	L. W. Adams	Hartford
Delaware							
Florida			Yes			J. R. Hunter	Wewahitchka
Georgia			Yes			J. J. Wilder	Cordele
Idaho	Yes		Yes	Guy Graham	Boise	R. D. Bradshaw	Fayette
Illinois			Yes	A. L. Kildow	Putnam	J. A. Stone	Springfield
Indiana		Yes*	Yes	Frank Wallace	Indianapolis	R. B. Scott	Indianapolis
Iowa	Yes	Yes*	Yes	F. E. Millen	Ames	H. B. Miller	Marshalltown
Kansas	Yes	Yes	Yes	G. A. Dean. Manhattan (No.)		O. A. Keene	Topeka
Kentucky				S. J. Hunter. Lawrence (So.)	County System	Prof. Vansill	Lexington
Louisiana			Yes			L. T. Rogers	Shreveport
Maine			Yes			O. B. Griffin	Caribou
Maryland	Yes	Yes	Yes	G. H. Cale	College Park	G. H. Cale	College Park
Massachusetts	Yes	Yes	Yes	B. N. Gates	Amherst	T. J. Hawkins . . . (E.) Everett	
Michigan	Yes	Yes	Yes	B. F. Kindig	East Lansing	P. S. Crichton	Boston
Minnesota	Yes		Yes	C. D. Blaker	Minneapolis	C. P. Campbell	Grand Rapids
Mississippi						L. V. France	St. Paul
Missouri	Yes		Yes			Dr. L. Haseman	Columbia
Montana	Yes	Yes				S. F. Lawrence	Hardin
Nebraska	Yes	Yes	Yes	County System		E. G. Carr	New Egypt
Nevada	Yes					H. B. Barron	Hagerman
New Hampshire			Yes			F. Greiner	Naples
New Jersey	Yes		Yes	E. G. Carr	New Egypt	S. S. Stabler	Salisbury
New Mexico			Yes	County System		Dr. E. Kohn	Grover Hill
New York	Yes	Yes	Yes	Com. of Agr.	Albany	F. W. VanDeMark	Stillwater
North Carolina						H. C. Klinger	Liverpool
North Dakota			Yes			G. B. Willis	Providence
Ohio	Yes		Yes	H. J. Speaker	Columbus	L. A. Syverud	Canton
Oklahoma	Yes		Yes	Prof. E. C. Sanborn	Stillwater	C. E. Bartholomew	Knoxville
Oregon	Yes					A. M. Hasselbauer	San Antonio
Pennsylvania	Yes	Yes	Yes	J. G. Sanders	Harrisburg	J. C. Henager	Salt Lake City
Rhode Island			Yes	A. C. Miller	Providence	J. E. Crane	Middlebury
South Carolina				District System		Prof. W. J. Schoene	Blacksburg
South Dakota				J. S. Ward	Nashvile	J. B. Ramage	No. Yakima
Tennessee	Yes	Yes	Yes	F. B. Paddock	College Sta.	C. A. Reese	Charlestown
Texas	Yes		Yes	County System		N. E. France	Plattville
Utah			Yes	J. E. Crane	Middlebury	Gus Ditmer	Augusta
Vermont						Morley Pettit	Guelph
Virginia							
Washington			Yes	County System			
West Virginia		Yes	Yes	C. A. Reese	Charlestown		
Wisconsin	Yes	Yes	Yes	N. E. France	Plattville		
Wyoming			Yes	County System			
Ontario, Can.	Yes		Yes	Morley Pettit	Guelph		

* Comb honey excepted.

Classified Advertisements

Notices will be inserted in these classified columns for 25 cts. per line. Advertisements intended for the department cannot be less than two lines, and you must say you want your advertisement in the classified columns or we will not be responsible for errors.

HONEY AND WAX FOR SALE

Beeswax bought and sold. Strohmeyer & Arpe Co., 139 Franklin St., New York.

FOR SALE.—Michigan's best white extracted honey in packages as desired. Also comb honey.

A. G. Woodman, Grand Rapids, Mich.

FOR SALE.—15000 lbs. white extracted alfalfa and clover honey in 60-lb. cans. Who wants it, and at what price?

S. F. Lawrence, Hardin, Mont.

FOR SALE.—Clover honey in sixty-pound cans, 15¢ per pound; No. 1 white comb, \$4.50 per case of 24 sections; No. 2 white, \$3.50 per case, six cases to carrier.

H. G. Quirin, Bellevue, Ohio.

FOR SALE.—Clover, heartease, No. 1 white comb, \$3.50 per case; fancy, \$3.75; extra fancy, \$4.00; 24 Danz. sections to case, extracted, 120-lb. cases, 15 cts. per lb. W. A. Latshaw Co., Carlisle, Ind.

One or 100 barrels mild-flavored light-amber honey, just right for blending with Northern honeys. For sample and price F. O. B. New York, address Elton Warner's apiaries, San Juan, Porto Rico.

CALIFORNIA ORANGE HONEY.—About the last opportunity to get a few cans of this fancy honey—white, heavy body, superb flavor. Also California light amber.

James McKee, Riverside, Cal.

FOR SALE.—White-clover extracted honey of the finest quality; was left on the hives until thoroly ripened; it is put up in new 60-lb. tin cans. Price \$8.50 a can. Sample by mail 10c. Cash must accompany each order.

G. A. Barbisch, Rt. 1, La Crescent, Minn.

HONEY AND WAX WANTED

WANTED.—Comb and extracted honey.

J. E. Harris, Morristown, Tenn.

WANTED TO BUY beeswax. Highest prices paid.

W. A. Latshaw Co., Clarion, Mich.

Small lots off-grade honey for baking purposes.

C. W. Finch, 1451 Ogden Ave., Chicago, Ill.

WANTED.—Honey, carload or less, state lowest price.

O. N. Baldwin, Baxter Springs, Kan.

WANTED TO BUY a quantity of dark and amber honey for baking purposes.

A. G. Woodman Co., Grand Rapids, Mich.

WANTED.—Strained honey in barrels and cans. Send sample. State quantity and kind. Jay-Kay Supply Co., Inc., 163 Atlantic Ave., Brooklyn, N. Y.

WANTED.—Carload or less white and darker extracted. State quantity, quality, packing and lowest price. HOFFMAN & HAUCK, Richmond Hill, N. Y.

WANTED.—Small quantities of cappings and old combs free from honey and brood. State net weight and price wanted.

R. W. Cobb, 1534 Wyandotte Ave., Lakewood, O.

Chas. Israel Bros. Co., 486 Canal St., New York Established 1878. Wholesale dealer in Honey and Beeswax. We buy Honey. Send us samples and the quantities you have, also your best price delivered New York. We pay the highest market price for clean, bright yellow beeswax.

WANTED.—Comb and extracted honey at jobbing prices. National Honey Producers' Association, Kansas City, Mo.

WANTED.—Carload or less lots white and buckwheat comb honey. State quantity, grading, section size, and lowest price. HOFFMAN & HAUCK, Richmond Hill, N. Y.

WANTED.—Extracted honey in both light and amber grades. Kindly send sample, tell how honey is put up, and quote lowest cash price delivered in Preston.

M. V. Facey, Preston, Minn.

BEESWAX WANTED.—We are paying higher prices than usual for beeswax. Drop us a line and get our prices, either delivered at our station or your station as you choose. State how much you have and quality. Dadant & Sons, Hamilton, Illinois.

\$19.00 buys 100 comb-honey shipping-cases holding 24 4 x 4 x 1 1/2-in. plain sections, including 3-in. glass, nails, and corrugated paper. This price is f. o. b. our factory in Wisconsin, and includes \$1.00 for a subscription to the Domestic Beekeeper the balance of this and ALL of 1918. Address Service Department, Domestic Beekeeper, Northstar, Michigan. Can make prompt shipment.

FOR SALE

FOR SALE.—A full line of Root's goods at Root's prices.

A. L. Healy, Mayaguez, Porto Rico.

2000 FERRETS. Prices and book free.

N. A. Knapp, Rochester, Ohio.

Beekeepers, let us send you our catalog of hives, smokers, foundation, veils, etc. They are nice and cheap.

FOR SALE.—One-ton Reo truck in good shape. A bargain for the man who needs it. Address No. 24, care of A. I. Root Co., Medina, O.

150 envelopes, 150 letter-heads, size 6 x 9 1/2 inches, printed and mailed for \$1.00. Samples free.

Sun Co., East Worcester, New York.

SEND TODAY for samples of latest Honey Labels for comb and extracted. Not only the most attractive, but also the lowest in price. Samples free. Liberty Pub. Co., Sta. D, Box 4-E, Cleveland, Ohio.

THE ROOT CANADIAN HOUSE.—73 Jarvis St., Toronto, Ont. (note new address). Full line of Root's famous goods; also made-in-Canada goods. Extractors and engines; GLEANINGS and all kinds of bee literature. Get the best. Catalog free.

\$21.00 buys 100 comb-honey shipping-cases holding 24 regular beewax sections each including 2-in. glass, nails, and corrugated paper; also \$1.00 for a subscription to the Domestic Beekeeper the rest of this year and ALL of 1918. Address service Department, Domestic Beekeeper, Northstar, Michigan.

WANTS AND EXCHANGES

WANTED.—Albino queens. Who has Albino? D. E. Lhommedieu, Colo., Iowa.

BEESWAX WANTED.—For manufacture into Weed Process Foundation on shares.

Superior Honey Co., Ogden, Utah.

WANTED.—One four-frame extractor, reversible, but not necessarily automatic; must be a bargain.

Joseph S. Scott, Mt. Pleasant, Ala.

WANTED.—To exchange a one-minute "Mandel-Ette" camera for 10-fr. hives or supplies. Camera cost \$5.00.

E. A. Rahn, Taylor Ridge, Ill.

WANTED.—Shipments of old comb and cappings, for rendering. We pay the highest cash and trade prices, charging but 5 cts. a pound for wax rendered.

The Fred W. Muth Co., 204 Walnut St., Cincinnati, O.

WANTED.—Two or three hundred colonies of bees on shares run for extracted. I have power extractor 8-yr. experience.

Frank A. Childs, Olathe, Colo.

OLD COMBS WANTED.—Our steam wax-presses will get every ounce of beeswax out of old combs, cappings, or slungum. Send for our terms and our new 1917 catalog. We will buy your share of the wax for cash or will work it into foundation for you.

Dadant & Sons, Hamilton, Illinois.

\$20.00 buys 100 comb-honey shipping-cases holding 24 4 1/4 x 4 1/4 x 1 1/2 plain sections, including 2-in. glass, nails, and corrugated paper. This price is f. o. b. our factory in Wisconsin, and includes \$1.00 for a subscription to the Domestic Beekeeper for this year and ALL of 1918. Address Service Department, Domestic Beekeeper, Northstar, Michigan.

GOATS

FOR SALE.—Two pure-bred Swiss Saanen twin does, good milkers, 3 years old; must go together.

Geo. White, Rt. 3, Milford, Mich.

REAL ESTATE

FOR SALE CHEAP.—24 acres in south Florida, partly improved; ideal for bees and poultry.

Joe Kiel, Sebring, Fla.

FOR SALE.—One twenty-acre farm with ginseng beds. Also 200 swarms of Italian bees and a quantity of fine honey put up in 60-pound cans at 15¢ a pound.

L. Francisco, Dancy, Wis.

FOR SALE.—20 acres of land, situated in the town of Dorset, Ohio, 7 miles from Jefferson, the county seat, with paved street to Jefferson; also one thru town; also 53 colonies of bees; large 10-room house; also large barn, large granary, and other buildings.

E. E. Griffis, Dorset, O.

VIRGINIA, North Carolina, West Virginia, and Ohio farms at \$15.00 per acre and up, offer big values for the price. Best climate, markets, schools, and transportation. Good land and neighbors. Write F. H. LaBaume, Agr'l Agt. N. & W. Ry., 246 Arcade, Roanoke, Va.

A small farm in California will make you more money with less work. You will live longer and better. Delightful climate. Rich soil. Hospitable neighbors. Good roads, schools, and churches. Write for our San Joaquin Valley illustrated folders free.

C. L. Seagraves, Industrial Commissioner A. T. & S. F. Ry., 1934 R'y Exchange, Chicago.

FOR SALE.—A splendid apiary of 100 colonies of Italian bees in 8-frame hives, in one of the best locations for quantity and quality of honey; no disease in this part of Nevada; yard is fenced. There is a comb-honey house, extracting-house on two levels, 8-frame power extractor, 1 h. p. engine; have unlimited supplies of both comb and extracting. Price of bees \$6.00 per colony for quick sale; hives will be left full of good honey. Other stuff, as much as desired, at bargain prices. Everything of the best, and in good condition.

J. E. Patton, Lamoielle, Nevada.

BEES AND QUEENS

Finest Italian queens. Send for booklet and price list. Jay Smith, 1159 DeWolf St., Vincennes, Ind.

PHELPS queens will please you. Try them and you will be convinced.

C. W. Phelps & Son.

Well-bred bees and queens. Hives and supplies.

J. H. M. Cook, 84 Cortlandt St., New York.

FOR SALE.—Bees, queens, and honey in their season.

H. G. Quirin, Bellevue, O.

Italian queens; hybrids, 29¢; mismated, 35¢; and pure, 50¢.

C. G. Fenn, Washington, Conn.

"She-suits-me" bright Italian queens; \$1 by return mail till Oct. 1.

Allen Latham, Norwichtown, Ct.

Business first queens. Select untested, \$1.00 each; \$9.00 a dozen; no disease. Price list free.

M. F. Perry, Bradenton, Fla.

Three-banded Italian queens and a few hundred pounds of bees for sale. Safe arrival guaranteed.

J. A. Jones, Rt. 3, Greenville, Ala.

Gray Caucasian Queens, untested, \$1.00; select untested, \$1.25; tested, \$1.50; select tested, \$2.00.

H. W. Fulmer, Box G, Point Pleasant, Pa.

Try ALEXANDER'S Italian queens for results. Untested, each, 75 cts.; 6 for \$4.25; \$8 per dozen. Bees by the pound.

C. F. Alexander, Campbell, Cal.

Tested leather-colored queens, \$2.00; after June 1, \$1.50; untested, \$1.00; \$10.00 per dozen, return mail. A. W. Yates, 3 Chapman St., Hartford, Conn.

Vigorous prolific Italian queens, \$1; 6, \$5, June 1. My circular gives best methods of introducing. A. V. Small, 2302 Agency Road, St. Joseph, Mo.

Italian queens, THE HONEY GATHERERS. Price one dollar each, nine dollars a dozen. Edith M. Phelps, 259 Robinson St., Binghamton, N. Y.

FOR SALE.—84 colonies of bees on wired Hoffmann frames, nice clean combs in 10-frame hives; no disease; 25 extra hives; 85 comb-honey supers.

Wheeler's Comb-Honey Apiaries, Rhinecliff, N. Y.

Finest Italian queens, June 1 to November, \$1.00; 6 for \$5.00; my circular gives good methods. Ask for one.

J. W. Romberger, 3113 Locust St., St. Joseph, Mo.

Bright Italian queens for sale at 60 cts. each, \$6.00 per doz.; virgins, 25 cts. each. Safe arrival and satisfaction guaranteed.

W. W. Talley, Rt. 4, Greenville, Ala.

PHELPS GOLDEN ITALIAN QUEENS combine the qualities you want. They are great HONEY-GATHERERS, BEAUTIFUL and GENTLE. Mated, \$1.00; dozen, \$12.00; tested, \$3.00; breeders, \$5.00 and \$10.00. C. W. Phelps & Son, Wilcox St., Binghamton, N. Y.

NOTICE.—I am now uniting nuclei for winter, and have some fine young queens on hand for prompt shipment at 75 cts. each or 12 for \$7.00. Bees from this strain of Italians have this poor honey season stored 150 lbs. honey per colony.

J. B. Hollopetter, Queen-breeders, Rockton, Pa.

TENNESSEE-BRED QUEENS.—My three-band strain that has given such universal satisfaction for over 40 years. Orders filled promptly or money refunded by first mail. 1000 nuclei in use. Tested, in June, \$1.75; untested, \$1.00; in July, \$1.50 and 75 cts. Postal brings circular.

John M. Davis, Spring Hill, Tenn.

FOR SALE.—25 colonies of Italian bees in Root 10-frame dovetailed hives. My entire equipment for sale; hives and supers all in A No. 1 condition—some new, remainder used two and three years. Will sacrifice if sold promptly. Send for complete list and photo of apiary.

C. H. Glase, 1331 Park Ave., Reading, Pa.

ITALIAN QUEENS, northern-bred, three-banded, highest grade; select untested, guaranteed; queen and drone mothers are chosen from colonies noted for honey-production, hardiness, prolificness, gentleness, and perfect markings. Price, one, \$1.00; 12, \$9.00; 50, \$30.00. Send for circular.

J. H. Haughey, Berrien Springs, Michigan.

When it's GOLDENS it's PHELPS. Try one and be convinced.

C. W. Phelps & Son, Binghamton, N. Y.

Southwest Virginia five-band Italian queens, the fancy comb-honey strain, gentle to handle. They will please you. Try one. \$1.00 each.

Henry S. Bohon, Rt. 3, Box 2112, Roanoke, Va.

QUEENS OF SUPERIOR QUALITY.—Untested, 75c each, \$8.00 per doz.; select untested, 90c each, \$9.00 per doz.; select tested, \$1.50 each, \$15.00 per doz.; extra select breeder, \$5.00.

H. N. Major, South Wales, N. Y.

Queens, Queens, Queens. We are better prepared than ever to supply you. Untested, 55c each; tested, \$1.00 each; select tested, \$1.65 each. See our big illustrated ad. on first leaf of this journal.

W. D. Achord, Fitzpatrick, Ala.

FOR SALE.—Three-banded Italian bees and queens from the best honey-gathering strains obtainable. Untested queens, 75 cts.; 6, \$4.25; 12, \$8.00. Tested queens, \$1.50 each.

Robt. B. Spicer, Wharton, N. J.

My bright Italian queens will be ready to ship April 1 at 60 cts. each; virgin queens, 30 cts. Send for price list of queens, bees by the pound and nucleus. Safe arrival and satisfaction guaranteed.

M. Bates, Rt. 4, Greenville, Ala.

Golden Italian queens from June to November, untested, 75 cts.; 6, \$4.25; doz., \$8.00; tested, \$1.25; 6, \$7.00; select tested, \$1.50; breeders, \$5.00. Bees by pound or nucleus. Pure mating guaranteed. Send for circular. J. I. Danielson, Fairfield, Ia.

None but the best Queens are sent out by us—three-band Italians that are guaranteed to give satisfaction. Untested queens, 75c; \$8.00 per doz.; tested, \$1.00 each. No disease. Orders filled promptly. J. W. K. Shaw & Co., Loreauville, La.

The demand for PHELPS' GOLDENS has been so great that we shall not be able to fill orders for less than \$12.00 a dozen for the remainder of the year. Single queens \$1.00 as usual. THEY ARE BEAUTIES! Try one. C. W. Phelps & Son.

Golden Italian queens, good as the best, to close out quick. Price, select tested, \$1.00; tested, 75 cts.; untested, 50 cts.; no discount of any kind.

D. T. Gaster, Rt. 2, Randleman, N. C.

HELP WANTED

HELP WANTED.—Factory positions, men for lumber-yard and woodworking-machine operators; boys over 16 years for helpers on woodworking-machines; women and girls over 17 years to work on light manufacturing. Steady employment to competent workers. Apply by letter, giving previous experience, if any. Address The A. I. Root Co.

Special Notices by A. I. Root

THE GARDENETTE AND THE SANDWICH SYSTEM.

In our issue for Nov. 15, 1916, I gave quite a write-up of the work done by B. F. Albaugh at Covington, Ohio, along the line of high-pressure gardening. I have made some tests of the "sandwich" plan, and I am glad to say it comes fully up to my expectations. It gave the finest lot of cantaloupes and melons I ever grew on our clay soil; but everything grows so rank, that my melons are going to be a little late in ripening. I first dug out a pit in the hard clay about 18 inches deep, 3 feet wide, and perhaps 12 feet long. After laying a tile thru the center to carry off the surplus water I put on perhaps six inches of strawy stable manure; then a load of sand and a load of old well-rotted stable manure, thoroly mixed up, and some good garden soil to top off with. Well, everything growing on

this sandwich bed has shown remarkable thrift and vigor. I can readily believe what friend Albaugh says in his book, that three or four square rods under such treatment will pay a *liz* per cent on the money and work invested. If you have only a *little spot*, where the sun can get at it some time during the day you can grow a lot of stuff on it. For a single hill of melons, squashes, or cucumbers, dig a hole about the size of an ordinary wash-tub. Fill this with manure, sand, fallen leaves, or trash of almost any kind, and you will get vines that will grow and produce beyond anything you ever saw.

The book also describes what the author calls a "plant incubator." It is a miniature hot-bed warmed by a single little coal-oil lamp; and I feel sure that it would be a wonderful and attractive plaything for the children, even in winter time. Just now, while there is so much talk about "war gardens," such things ought to possess a new interest.

The price of friend Albaugh's book, nicely bound in cloth, is \$1.25. The beautiful pictures that illustrate it from beginning to end are worth almost if not quite the price of the book. We offer the book postpaid by mail with GLEANINGS one year for \$1.75. If you want to make one or more of the children a birthday or Christmas present, I can think of nothing better than "The Gardenette; or, City Backyard Gardening by the Sandwich System."

"THE EVILS OF TOBACCO AND CIGARETTES."

The above is a book of 126 pages, just out, written by L. H. Higley, Butler, Ind. Mr. Higley is the editor of the *Butler Record*. I am glad to see just one editor who dares come out "in the open," and tell us the truth about tobacco. I wonder how many editors of our various periodicals are not users of tobacco in some manner. On a page partly blank, right in the middle of the book, in large plain letters, I find the following:

"As girls nurse a doll to imitate women, boys smoke and chew to imitate men. What is the moral?"

I will tell you what a part of the moral is. Small boys get glimpses of cigarettes, and think that cigarettes are just the thing with which to imitate a man. The summing-up of things in this book is simply awful to contemplate, especially when we are talking of "efficiency" and "preparedness" as the whole world never talked it before.

Send 25 cents and get the book; and if you have a boy or boys let them read it too—yes, let the girls read it. I think that if you start in, on almost any page, you will read the book thru to the end.

"HARNESSING" THE WIND.

If any of our readers can give me any information in regard to charging storage batteries by means of windmills or wind power, I should be very glad, just now, to find out where it is being done. There may be shortages and monopolies on coal, gas, and gasoline; but, thank the Lord, there is not likely to be any "holdup" on the wind that blows, just over our heads, everywhere.

Sept. 24.—Just as we go to press I learn that J. F. Foster, of Poynette, Wis., is running an electric automobile the batteries of which are charged by means of a windmill. Therefore it has actually come to pass that automobiles can be propelled by wind power instead of gasoline.

A FARMER'S RAT STORY.

We take pleasure in clipping the following from the *Patriot-Phalanx*, Indianapolis:

Dear President Wilson:—Statisticians tell us that rats consume \$160,000,000 worth of food every year in the United States. This leads me to ask a question: If you had the power would or would you not annihilate all the rats and forbid anybody bringing them back? In your effort to annihilate these useless and wasteful rodents would you enact township laws or national laws? for surely if you drove all the rats out of one township you could not keep them out unless you destroyed the rats in all other townships.

In fact, Mr. President, would it not be a fine thing, worthy of attention by your departments, to inaugurate a general rat-killing?

Rats don't make good soldiers, nor do they help to feed them, nor to weaken the enemy, nor to build airships or U-boat destroyers.

Mr. President, let's banish the rats.

AROUND THE OFFICE

M.-A.-O.

Well, I am still here despite what I reported about "Old Selser" in our last, but it's by a mighty small majority. I have been having to maneuver for position constantly since Sept. 1. For what do you think! The very day that the first copy of the September number of Gleanings was off the press (containing, as you know, some references of mine to the aforesaid and his honey troubles in New York State), who should land right here in the office but Mr. Wm. A. Selser, Esq., of Philadelphia, Pa.? I went fishing the rest of that day and all of the next, hoping he would get out of town. But he didn't. I couldn't play hooky any longer without a salary cut, so I came out of the bushes. Did I get "stang"? I did. Then I got stang some more and some more. I also learned distinctly from several sources that Wm. A. Selser had been associated with the Root company for nearly 30 years, never in the penitentiary, and that I would have to put on the soft pedal hard—whatever that means—whenever I might feel like taking his name in vain. So I take it back—because I have to — (censored) it! When he arrived the other day, no one could tell whether it was baggage or a human being getting off the car, but it moved right toward the office and eventually proved to be Mr. Selser, Esq., and his handbags, that he set out to prove were loaded up to the nozzle with ammunition to fight for higher prices for honey for the beekeeper. He says he is State Inspector for Pennsylvania and a beekeeper of long standing, and he told me properly and emphatically he was for the beekeeper every time. I told him to never mind and not to unload any more stuff out of those bags and I would take his word for it. I have made it a lofty and unshakable principle thruout all of life's vicissitudes to say 'most anything or take 'most anything back rather than take a licking. (Addendum—No fooling, I don't think Selser is so awful bad.)

Look ahore! A lot of you fellows who are piling onto my back all to once can just pile off. In these days of cabbage-worm affliction, hay fever and small honey crop, I am not feeling like taking any more than I have to. I tell you I have had about enough between squash bugs, skunks in my apiary, cabbage worms and ragweed without a lot of you fellows trying to break down my salary communication trench with the A. I. Root Co. by bombarding "Uncle Amos" and other editor Roots with poison-GAS letters agin me. To particularize: Some good old saint up at Little Britain, Ont., in all good faith, writes inquiring "what account does M.-A.-O. expect to give for all his idle words." M.-A.-O. ain't

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Around the Office—Continued

figgering on giving any account for them at all—they ain't worth accounting for. That gets him off my back, right straight. Then a well-meaning soul out at Morrill, Kas., quotes Ephesians 5:4 on me, which same text appears to be mostly about foolish talking and jesting and doesn't seem to be boasting it very much. He sends along a newspaper clipping to prove that "durn it" and "blame it" and "ding it" mean something else and that "gosh" and "golly" mean something else worser still. That old saint can just slip down off my back when I tell him I don't mean these ever to mean anything else than they do mean—and Corinthians 13:5. I guess when he gets that one of Paul's soaked into his skin a-plenty he won't pass me any more Eph. 5:4, so he won't. But I have kept the biggest shillalah in my whole whang-doodle for the grand finale of this argument. I figger it's a humdinger for me and a fareyewell right for all hostiles trying to pinch off my salary. Get ready! There's one PREACHER everlastingly on my side. He lives down at Josephine, Indiana Co., Pa. He's come right out bold on my side, too, and says I have been furnishing texts for his sermons. Here is what he writes to the editors: "Tell Grandpa Root not to be too hard on M.-A.-O., for his lost 'extraeter' handle story. I have had one sermon out of it already — subject, 'The Other Fellow's Viewpoint,' I am working on another one — subject, 'The Lost Coin, or the Pearl of Great Price.'" I guess that'll put the terminal binger on 'em and make 'em all get off, won't it? Or, as the vulgar populace would say, "I guess that will hold'em for awhile."

I'll bet Job had been trying to conduct an "Around-the-Office" column in Gleanings in Camel Culture, published at Uz, Chaldea, when he let out that groan about wanting to hit into a place where "the wicked cease from troubling and the weary be at rest." It just seems to lose a man all his friends, and he probably said that right after everybody had gone back on him and when the cabbage worms were likely at their worst. I know about it. I am right-there-Eli today myself. The last friend to desert was the old family cat, this morning. She was purring away in my lap as I sat recuperating after the regular six A. M. cabbage-worm battle in my garden, whereby I and my nervous system were being greatly soothed, when she suddenly rose up William Riley in a XXX triple-plated fit. It was the greatest all-around fit, in many respects, I have ever seen fitted onto a cat. The first thing I noticed, or thought I noticed, was that she departed. She seemed to leave via my left chest region, left shoulder, left ear and left side head top. Any way, her general direction was upwards in a hurry. How I know mostly is that

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A KIND WORD TO M.-A.-O. FROM OUR LONG-TIME FRIEND, IRVING KECK.

I have just read your contribution to the August GLEANINGS. I am glad you have decided not to be bounced. I have been an interested reader of GLEANINGS for over 30 years, and have visited A. I. in his home at Bradenton, and have had him in my home here, so I know something of Uncle Amos and his peculiarities. The younger Roots I have not met, but among you I imagine Uncle Amos is needed to keep a steady rein on the colts of the establishment. I have just read the July issue also, about Uncle Amos looking at the robust figure of the lady with the developer to sell. It was the cause of a very broad grin in this household. But may Uncle Amos ride many more hobbies, and may one of them be to keep "M.-A.-O." in GLEANINGS. Bowling Green, Fla., Aug. 22. IRVING KECK.

"HOW TO BE HAPPY."

Dear Brother Root:—Your splendid little tract, "How to be Happy when People Abuse You," hit me where I live. It has done me much good in showing me myself. May its good work go on! I want to use about twenty-five of these if you will send them to me.

Hancock, Ia., Sept. 2. HARRY W. HANSEN.

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Around the Office—Continued

wherever she directed her feetsteps I found later about four good substantial cat toenail abrasions per step each, and these were all along my upper left-side region. She was evidently nervous and careless. Where she got her flying start seemed to be at the clean top of me, for later investigation went to show that she braced herself there to try to break the cat long-jump record, and thoughtlessly didn't think where she was. Probably she was trying to do the best she could under the circumstances, but, in securing the largest purchase and forward propulsion of her hind legs possible, she seems to have slipped backward about one and one-half inches before she thought to take her toe nails out of the left auricular procranial area of my scalp. That incident led me to arise enthusiastically and take in further proceedings standing up. Right here I must pause to say that I can't go into details as I would like to do, for there wasn't time to get them. As best I can recall subsequent stirring events, after arising I tried first to get a glimpse of dear old pussy. If I had started to revolve in the opposite direction from which she was then earnestly, uninterruptedly and tumultuously touring around and around my palatal study, I might have got one flash of cat per revolution. But I didn't have that luck. I started revolving the same way she was en route, and my line of vision never did catch up. But this isn't saying it was not interesting—every second of it. Things began flying early and kept coming continuously and increasingly. So I knew kitty was probably doing about her level best in the speed line on a four side track. About the thirty-ninth merry-go-round I got so dizzy that things fogged up, and I had to slow down. Along just about that time then (I am not clear on the order of events) the worst and also noisiest eruption of the occasion drowned out the sound of 'most all the other things flying in the room at that date—and my poor, long-suffering, patient wife's face appeared at the door. Awful—worse than you know of yet—a (censored) sight! For hadn't I, just the day before, after a whole spring and summer of wily persuasion, got wife to let me bring her little mahogany-on-wheels tea-service table into my room with the globe of gold fish on it? I had. Hadn't I promised not to put even a pin down on the precious, delicate thing? I had. Hadn't I promised to pick it up, successfully balance the fish globe on it, not spill a drop of water, and rush it back on display in the dining-room every time the doorbell rang? I had. Now then! Do you think that kitty missed that precious little tea-wee table? Not on your life she didn't. That was the cause of the biggest of all eruptions just mentioned above. She hit it square amidships when she did get around to it, too. Remember, I didn't see her do it, but I think she did

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Around the Office—Continued

something of the kind, for when I hurriedly left the house an hour ago, one leg, two wheels and one support of that wootsie tootsie little table were rent asunder, the fish globe was leaking considerably and my crying little ones were trying to salvage the gold fish out of the hot-air register with a pop-corn popper. What was left whole and self-composed and natural in that room was what was above high-cat-jump mark. Also when my wife wasn't choked up too much with grief she was conversing with me about that cute little table. "Forget it!" I told her. But her forgetter did not seem to be working well, so I came away.

* * *

Now, while I don't want any of you to think that in giving you the above-mentioned important data I was wandering away from the main subject of Job as a journalist, yet I wish to "embalm in the liquid amber of my remarks" one more remarkable incident of the epochal happenings of an hour ago at my home. With the cat tracks on the upper left-hand side of my torso, neck, ear and head still redhot, and the sound of the dissolving little tea-table, fish-globe and wife still ringing in my ears, I rejoice in one memory of it. It shines forth as the one bit of silver lining on the whole dark cloud. The fact is, kitty made one very bad tactical error just before leaving me forever—that is, I think she did and I think she thinks so now. You see I contracted, years ago, the habit of fishing. It has become perniciously chronic. I have contracted the further bad habit when coming in from the creek of putting my wet fishing line, hook and all, on the foot of my Persian divan to dry. This plan also avoids the labor of putting it up. It likewise makes my closest relative by marriage mad. It furthermore makes the foot of my divan shunned and greatly respected by callers during the entire fishing season and so keeps it from wearing out. Well, dear old kitty in her last round of circular research for brie-a-brac and other obstacles in my room to surmount, thoughtlessly decided on a trial trip up over and across the foot of my Persian piece-de-resistance of furniture, and the principal results must have come fully up to her fondest expectations. I couldn't see her, of course. No one could. She was full steam ahead and the safety valve tied down when she undertook the enterprise. But it seems she got attached to something immediately upon arriving on the foot of the divan. Perhaps, now, that is untrue and does her an injustice. Something may have got attached to her. I don't know. But between them they worked up about the strongest case of attachment I have ever seen—no, I mean, heard. Her part of the attachment was somewhere posteriorly, and it seemed to change her thought and entire plan of campaign almost immediately. Apparently, a truly great enthusiasm for break-

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Around the Office—Continued

ing all previous cat speed records (including her own just made) and getting into a wider field of operations, seized her exactly contemporaneously with her new-formed attachment. They started off together, anyway, taking the fish line and my old bass reel along with them. She was ahead, of course, and picked the trail. The rest started about the same time. Her interest in temporal things in my room seemed to wane completely and simultaneously, and she made a bee line (that's the point where this article touches on apiculture) for the nearest window. The wire screen didn't check her up a bit, altho it did about three-fourths of her fur. That's in my room on the inside of the screen yet. If she figured on leaving anything hurtful to her feelings on the interior side of that window screen she guess-
ed wrong. A No. 2 bass hook in man meat or cat muscle is justly famous for staying on the job, and a 40-pound test No. D bass line, aided and abetted by a No. 2 bass hook on which a cat has heedlessly sat down, will follow faithfully along behind a cat considerably longer than most cats think—and keep a well-made reel coming along too. Well, kitty never faltered, once out in the

wide wide world, and as she went around the corner of the house the reel hopped out thru the hole in the screen, going $78\frac{1}{2}$ miles an hour and about 30 feet subsequently to the head of the procession. So they were off together, headed straight for my poor little tubercular garden. No garden could stand it—not even Mr. A. I. Root's nor Stancy Puerden's. Dear old kitty herself cleared my horticultural estate in about one and one-third jump. But the confounded reel caught on the first bean pole, the line held and swung that cat clean around over my late fall Chinese radish and purple-topped turnip beds, and d-r-n-d (censored some) if the line didn't saw off every last one of them! Never faltering, she started a new campaign up thru my late tomatoes. You never in your life saw a cat so set on a constant change of scenery as she was. First, late radish and turnip landscape, then tomato scenery for her. Her tail was straight out and horizontal-like, bigger'n a ball bat, and her eyes seemed set on Pike's Peak or further west. She was gaited a sort of go-as-you-please-but-hurry-along-cat-record-free-for-all run. I can't trust myself now to speak further of my late tomatoes, but kitty got thru and on

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Around the Office – Continued

top of as many of them as she didn’t get snarled up in the fish line, and set all sail with them and one bean pole down the middle of the street on which I live, a modest and generally law-abiding citizen. The tomato patch she had taken on, together with the bean pole, slowed her up a little by this time, and the neighbors could see it was my cat. So it happened that the last thing I just now saw on the street was a female uprising of my neighbor folks, and old Mother Stickin, secretary of the local Society of Prevention of Cruelty to Animals, pawing the air and shouting: “Horrid brute to ‘can’ that poor innocent cat that way—I’ll teach him, so I will!” Think of it!! All that on top of the true condition of affairs in my home, garden and wife! Why shouldn’t Job and I sit down side by side and cry out for a place where “the wicked cease from troubling and the weary be at rest??” We should. And why isn’t the way of the man who writes “Around-the-Office” hard? It is hard—this article proves it. (P. S.—Benny Peters, a neighbor boy, has just come in to my editorial palace with what he says he thinks is my fishing tackle; for Benny keeps track of fishing tackle in this neighborhood. The hook had about a half ounce of pink fresh meat on it, and he says the other end of the line was tangled on a bean pole that was stuck fast in their front gate. He says he doesn’t know who baited the hook that way, tho.) (Later.—From one-third to four-fifths of this story is true and I can prove it.)

* * *

If the close and compact reasoning submitted above has not convinced the reader why Job in his era and I in mine regard the conducting of an “Around the Office” column as a friend-losing business, then here’s more evidence. In the September Gleanings, so good a man as Mr. A. I. Root gets

on my trail for the way I reported his method of routing squash bugs in whole battalions by putting squashed bugs on the leaves. He avers that “a very determined hand-picking” was in the recipe and that I suppressed this important element in giving directions for wholesale decimation of squash bugs by fright. I knew of the “very determined hand-picking” method quite early in life, but was always some short on determination in the matter, and so welcomed the squashed-bug-on-the-leaf discovery almost wildly—as I would any other sure promoter of leisure. Now, while I don’t want to get “Uncle Amos” hostile to me, I can’t help wondering if, as he says, victory in the squash and melon patch comes only with a “hand-picking” every few hours along with the squashed-bug-on-the-leaf practice, how a fellow can tell whether both parts of the recipe are working full up. I left hard labor out of it and hadn’t got any squash vines and hadn’t had since about July 1. So I got it into my thick head that the squashed-bug part of that recipe might not always be working, or might be intermittent. But “Uncle Amos” wasn’t mean about it—he never is about anything. It’s Stancy Puerden in her food page that wants to twit on facts, and that isn’t considered gentlemanly. She wants to know about my early potatoes and my calling in the neighbors to see the first tremendous ones dug. She knows that’s mean, for everybody around here is now fully apprised of the fact that I had early potato vines fully five feet high, and that when I called in a few neighbors to witness the ceremony of taking a peck out of each hill, there was nary a potato in the whole dumfuddled patch—all gone to tops. I merely said: “Why, isn’t that strange and also real disappointing! Dear me!” That’s what I said while the Roots and other nice neighbors were present. When I had dismissed the meeting, I had a real heart-to-heart talk with that potato

patch with some satisfying language. Did you, A. I. Root, ever know that you could get a potato patch so rich and full of humus and wood ashes that it would grow nothing but tops and remorse? Well, it's so. But, I want to tell Stancy Puerden that I wouldn't get all puffed up and blow and brag about early potatoes that I had to start in a box in the house, rock in a cradle, feed on a bottle, tuck under blankets nights and take out on warm days in a perambulator. No, I wouldn't. I would either raise a manly, independent, frank, open-faced, outdoor potato, or I would conceal the fact from the public forevermore—much less go around blowing about it the way you have done in Gleanings. Take that, will you? But, on further reflection, I guess I'll try it myself next spring.

* * *

Speaking of gardening, leads me on to another apicultural subject—the cabbage worm. I refer to the very common, green, elongated, pusillanimous, ultra-numerous, dumfuddled, hoggish, polylegged, industrious child of the common yellow butterfly. He's what you'd call a binger on the cabbage game. I wish the Roots would let me discuss him here with the fervor that the subject deserves. I am full of it. For a month now I have arisen with the sun every morning and have gone out into my garden and looked down into the open, pleading faces of my poor cabbage with commingled feelings of pity, rage and revenge. Then I have stepped to it. I guess I have. While the cabbage worm isn't really gamey and his mental processes are apparently slow, there is considerable satisfaction in the pursuit of him. I think I get the most out of it by pulling him into two parts by slow tractile force applied at both ends. I have a feeling that that modus operandi makes him more regretful that he's a cabbage worm than almost anything else I can do. It brings out about all that's in him, too, and that's what you should do in all the affairs of life. If I have to dig into the very heart of the poor cabbage head, to overtake my game, I am so wrought up when I have got him that I pause, generally squeeze off only one end of him (as being somewhat more disciplinary and corrective), then I interrogate him as to whether he expects to be here for Christmas. Of course, that's just sarcasm, for a cabbage worm with one end squoze off can't be expected to answer questions about where he expects to spend next Christmas. But you have got to hand it to the cabbage worm for one or two details, tho. He always wears his green suit when dining on cabbage, doesn't rush panicly about and keeps quite still when hostile man approaches. You reflect a moment and you will see that shows protective color strategy and composure in the presence of the enemy. His worst oversight is in not covering up his tracks. They are easily identified, being always round or spherical, and my tip to you for successful

pursuit of him is to hunt above the trail. Never mind the wind as you do when hunting deer, for C. W.'s sense of smell doesn't seem acute. (P. S.—If you ever have the high-gear speed and rare luck to catch one of the suskalooted-cabbage-worm-egg-laying butterflies, after running one lung out of yourself, abolish one of her wings, then the other wing, then delete her legs one at a time seriatim, biff her in the left eye, and ask her how she likes it. I think it will relieve you a lot. I know it does me.)

* * *

Some anonymous sunofagon out in Indiana the other day wrote to "Man-Around-the-Office" (M.-A.-O.), care of the A. I. Root Co., Medina, O., and every blessed thing there was in his letter was this: "Why don't you even once in awhile get a little sense into 'Around the Office'?" Yes, sir, on top of all my other troubles, not to mention squash bugs, cabbage worms and pigeon grass in my garden, he shot that one into me. Of course, all of the Roots saw it before I did, and it didn't tend toward any salary boost for me. If he'd a signed his name, I'd a sent him a letter that would have needed an asbestos mail pouch to have carried it, so I would. I'd have told him as what sort of varmit I regarded him and wound up by calling him a cabbage worm. But cooling off a little and on reflection, perhaps he's entitled to know if I have got a specimen of sense on hand. So I am going to try this one on him for judgment: Living at this very hour down in a town in central Ohio is a beekeeper, who thinks he's a business whale. So he has to sell his honey the way Heinz sells his 57 kinds. Year after year, he buys bottles, bottles it, buys labels and labels it, hauls it two miles to market and sells it from his wagon retail per lb. at a less figure than he could sell it in 60-lb. cans at his door,—and owes debts all over town. It was exactly that bee-keeper sort about whom Solomon, when his attention was called to it, remarked right off hand that "there is more hope of a dinging fool than of him." (Translators expurgated one word in the King James version). Now you anonymous Indiana scrummudgeon, is there any sense in that or ain't there? Do Solomon and I know what we are talking about or don't we? Did Solomon ever agree with you about anything as he does with me on this point? I wot not.

* * *

That bee-moths are very like a good many naughty people who know what they are after and go to it, and that bees are very like a good many good people who know what is wrong but don't know how to put the binger on it, is illustrated by the following observation sent by Mr. E. J. Ladd of Portland, Ore.: "Did you ever see moths attempt to get into a strong colony? Moths are very plentiful this season with us and at nightfall literally make attacks on the bees

to get by the entrance. Have watched them practice their tactics as long and late as they could be seen. Apparently fearless, they light on the bees clustered outside and hurriedly try to pass. This scrambling to get by seems to excite and cause the bees to become flurried and instead of attacking the moths they begin to run around promiscuously in all directions. The busy moths seem to take desperate chances, pushing and dodging thru the entrance and the demoralized bees seem so badly rattled as to lose their fighting qualities. Whether there will be an extra crop of wormy combs time alone will tell, but at present indications point that way."

Mr. F. L. Gaines of Greenfield, Mass., sends this one along to be embalmed in the "Around the Office" column: "On page 574 of July Gleanings the man who had 'combed honey' for sale reminds me of one of my 'Down-East' honey customers. One day he came to me and asked: 'Say, you got any more of that extract of honey?' Upon learning that I had plenty, he replied: 'Wal, fetch me daoun some.'"

A. E. Crandall of Berlin, Conn., recently sent to the Gleanings' office in a queen mailing cage a specimen of the spider family on a slip of goldenrod on which a bee had been killed by this spider. It was a crab spider, and yellow as was the blossom it was on. There is a white variety that lies in wait for bees on white blossoms. The crab spider spins no entrapping web, but with arms outspread and concealed by its color awaits the coming of its victim, the bee, and by a swift movement grapples it in a death embrace. I hardly need to arise and remark that he is one of the orneriest little pukes on earth. He is so —— (censored) tough that a bee can't sting into him. There was one rather pleasing thing, tho, about the spider that Crandall sent us—that was the pin it had sticking straight thru its abdomen. It looked fully as painful as any pin.

KIND WORDS

"GATHER UP THE FRAGMENTS:" A FEW KIND WORDS AND SOMETHING MORE.

Mr. A. I. Root—I have just been reading Our Homes for July, and it so coincided with the instructions of our community for the past 100 years that I could not forbear dropping you a line of congratulation. I always turn to that part of GLEANINGS, for it is so practical.

In a late paper telling the women what to do for their country they were advised "to preach the gospel of the clean plate." This we have preached as well as practiced at the risk sometimes of ridicule, and I am sending you a little book, "Juvenile Guide," in which, on page 111, you will find the gist of Our Homes in said issue of GLEANINGS. This little book was written by our people, with selections by the best authors on the best of subjects for the guidance and culture of the youth and children of

our community. The poem mentioned was often framed for our dining-room.

AMELIA J. CALVER.

Mt. Lebanon, N. Y., Aug. 2.

Permit me to add that the little book, "Juvenile Guide; or, Manual of Good Manners," was published in 1844, especially for the youth of that date; and I heartily believe that such a book just now, to be read by young and old, would be a blessing to the world. Below is the poem mentioned:

TABLE MONITOR.

Gather up the fragments that remain, that nothing be lost.—CHRIST.

Here then is the pattern which Jesus has set; And his good example we cannot forget: With thanks for his blessings his word we'll obey; But on this occasion we've something to say.

We wish to speak plainly and use no deceit; We like to see fragments left wholesome and neat. To customs and fashions we make no pretense; Yet think we can tell what belongs to good sense.

What we deem good order, we're willing to state; Eat hearty and decent, and clear out our plate: Be thankful to heaven for what we receive, And not make a mixture or compound to leave.

We find of those bounties which heaven does give, That some live to eat, and that some eat to live— That some think of nothing but pleasing the taste, And care very little how much they do waste.

Though heaven has bless'd us with plenty of food: Bread, butter, and honey, and all that is good: We loathe to see mixtures where gentle folks dine, Which scarcely look fit for the poultry or swine.

We often find left on the same china dish, Meat, applesauce, pickle, brown bread, and mixed fish, Another's replenish'd with butter and cheese, With pie, cake, and toast, perhaps, added to these.

Now if any virtue in this can be shown By peasant, by lawyer, or king on the throne, We freely will forfeit whatever we've said, And call it a virtue to waste meat and bread.

Let none be offended at what we here say; We candidly ask you, is that the best way? If not, lay such customs and fashions aside, And take this monition henceforth for your guide.

THE "BEE BUCK," AND SOME KIND WORDS FOR THE SMALL SAMPLE OF BEAUTIFUL CALIFORNIA HONEY.

Dear Friends:—Good morning! I am sending you a sample of honey I produced—or, rather, the bees did under my instructions. Ask dear Mr. A. I. R. and Dr. C. C. M. if they ever saw any nicer. I have one swarm, or colony, I guess you call them, that has filled four ten-frame supers to date, and I believe they will fill two more before the season is over. Isn't that pretty good? I might add that I am an Ohio boy from Meigs Co., or I was a boy in the early seventies; and that reminds me of discussing the merits of A. I. Root's bee-book with a distant relative of Will C. Carleton—Will L. Carleton by name. He was telling something about it, and called it A. I. Root's "bee Buck," and from that day to this he goes by the name of "Bee Buck."

I hope the blessed Master will continue his blessings on you all, and give you your portion of his spiritual happiness.

My good brother A. I., I have read your Home department with much interest, and hope you may live many years to continue the good work.

Orcutt, Cal., June 6.

C. E. DILLINGER.



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